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Farm Hints for April.

SOME THINGS TO DO.

These will be busy days upon the farm. There will be much to do, and the days will be none too long for the accumulating work. The stock is still in the barn, and requires more than ordinary attention. On most dairy farms the cows are fast coming fresh in milk, and each one adds a little more to the daily routine of work and care. And they should be well cared for, too, for on this depends the success of the season from a financial point of view. The cows need the best of feed as well as care at this time.

If the farmer has been careful for the future, he has put the best milk-producing hay where it can be had at this time of year, and on such feed, with the useful allowance of grain feed, plenty of good water and the proper care, the cows should be generous in the yield of milk and begin to pay for the long months of feeding and care. Then there will be the spring calves to rear. Farmers should, as far as possible, raise heifers each year to supply the demands of the dairy for cows as fast as wanted.

On the farms where maple sugar is made there may yet be considerable to be done in this line, as the season has come forward late and may last well into the month in the more northern portions of New England. With such a winter, extending far along into March, we are liable to have warm weather come on suddenly and the time for seeding near at hand.

MENDING THE FENCES.

This work requires early and careful attention on all farms where stock is kept. Fences are not nearly so numerous as they once were, and the idea of doing away with all unnecessary ones as fast as possible is a move in the right direction. This saves fencing material, cost of construction and keeping in repair, besides adding to the greater ease and helpfulness in the processes of cultivation and harvesting the crops.

We should aim to have just as few fences as are actually necessary, and then keep these in good repair. The old-time rail fences are fast disappearing, the stone walls are following, and boards and wire are more generally used.

Before the stock is turned to pasture these fences should all be put in proper repair, so there will be no danger of the animals getting from one field to another, in this way taking their first lessons in becoming unruly. Particularly should all line fences between different farms be put in the best repair, for "good fences make good friends," you know. As soon as the frost gets out of the ground this work can be attended to. Then there will be no delay when stock is to be turned to pasture.

TURNING STOCK TO PASTURE.

There is quite a temptation to turn stock to pasture fully as early as the conditions will warrant. The animals that have been kept so long in the barns get uneasy, and as they are turned out to water and get a breath of the warming-up atmosphere and hear the sounds of spring, they are ready to break away from all restraint and take a run in the pastures, which, if not yet green with the springing grass, are very enticing. And who can blame them for this? No one should, at least, as it is the instinct of nature that teaches them this. But they should not be allowed to go upon the pastures, at least, until the ground has become fairly firm and dry enough to keep it from being badly trodden.

There is occasionally a pasture that is high and dry where the stock can be turned out quite early without detriment. If quite early there will, of course, be little feed, but the outing seems to do the cattle good.

We would not turn to pasture too early, neither would we keep the animals in the stable an undue length of time. We would like to have the cows keep up a good appetite for their rations at the barn until there is a good bite in the pastures. Young cattle, sheep and colts can be turned out as early as possible, but the cows should be kept up to their full flow of milk without any shrinkage in changing from hay to grass.

It is possible that in some instances farmers will this spring be under the necessity of turning their stock to pasture earlier than usual on account of the scarcity of fodder. Where this is the case the deficiency should, so far as possible, be made up by feeding grain.

ATTENTION TO THE GRASS FIELDS.

Where the snow remained on the fields most of the winter there should be reason to expect that the grass has been kept from killing out, and where it is remaining quite late, as in the northern parts of New Eng-

land, the conditions should be especially favorable. In places where ice has formed on grass fields, the prospect cannot be very promising.

Where manure was spread on grasslands last fall, or during the winter, if the work was not well done, that is, if the manure was not spread evenly and made fine, it should be gone over as early this spring as possible and thoroughly pulverized. A smoothing harrow, a good bush or clod-crusher, will be excellent for this kind of work.

Trees should not be set too thickly to produce the best results. Here is where some fall in planting new orchards. If there are thrifty trees in the orchard, and particularly if not very large, producing inferior fruit, the tops can be readily changed to good-bearing kinds by grafting. If there is no one to do this work at hand, the farmer or his son could very quickly learn to do it, as it is quite simple, and thus be able to make these changes as needed in the orchards.

The manure should be made fine and well worked down among the roots of the grasses where it can do the most good. The spring rains will then be of the greatest benefit to the growing crop. Where commercial fertilizers are used on grass fields,

ing them while very wet. Early-planted stuff often comes up unevenly, and grows slowly, requiring considerable work to keep the ground soft and clear of weeds. But it will surely pay for market crops on light, early land.

Rhubarb and asparagus should be manured if not done last fall. Those who raise their own seeds should set out quite early a few selected cabbages, carrots, beets, turnips, onions, parsnips, etc. The seeds of these crops are easily taken care of. The tomato plants started in the window-boxes should be transplanted to the hotbed and given plenty of room and air to make them grow stocky and tough. Be careful not to leave the ash off during a frosty night. Combination garden hoe, seed sower, marker, coverer and roller is a great help in making a good garden. The straight, even rows come up more evenly, produce more, and the tool will cultivate them very much faster and better than any kind of a hand hoe. They cost \$8 to \$10, and are worth while for any farmer who pays much attention to garden produce.

Making the soil very fine is especially important for the early crops. Plant food is scarce before the warm air and moisture have had time to set it free, but fining the soil will help the plants get what there is.

face, and see that the curve towards the bottom is smooth, so that the eggs roll easily and cannot work into corners. Breaking of eggs is more often due to bad nests than to clumsy hens, although there are some hens that can make the best of a bad situation. It pays to get the chickens out early, so that the most troublesome part of the work will be over before the most busy farm season begins, and so that the chickens will be all right for early broilers.

SET GRAFTS NOW.

The first part of April is on the whole the best time for grafting. Any intelligent man can succeed in grafting at almost the first trial. A good plan is to graft a young seedling immediately after transplanting. Both tree and graft will usually do well. A half-grown seedling may be retopped by an hour's work at grafting, and the transformed tree will be worth at least \$10 in two or three years. Take selections from trees that bear good fruit and regular crops, using sound ripe wood of one year's growth. Grafts set last year should be looked after, and the wild wood cut away.

Notes from the South Shore.

The winter has been very severe and has interfered with lumbering. The snow has

Stone platytenium, and another fancier gave \$1700 for *Erides Laurencianum*, it was believed that the high-water mark in orchid prices had been reached, but as high as \$300 has been paid for the pollen from a single *Odontoglossum* flower in the past year! Diamonds are cheap when compared with such prices!

Good Farming Pays.

This season will very clearly demonstrate the fact that only good farming pays. But the short crops that are likely to be harvested may prove to be a blessing in disguise.

Here in the great Ohio valley the outlook for a wheat crop was seldom, if ever, so discouraging. In looking across the country it is only here and there that a wheat field is seen that shows any sign of having come through the winter in fairly good condition. The fields are mostly bare or brown, the wheat plant having been killed to the ground, and where the crop was sown late the plant is entirely dead, which in a great many instances will necessitate the re-breaking of land and reseeded to some sort of spring crop.

A close inspection of wheat fields since the snow and ice have melted shows that the husbandmen who started his crop under the most favorable conditions as to prepa-

have gone into disuse. The largest one here is now being torn down and rebuilt for a storehouse for "Western feed and farm produce." While we grow and sell large quantities of potatoes and most seasons at a good profit, we have come to be large buyers of feeding stuff, such as corn and oat feeds, many of which are of low value, also bran and middlings, which, while of much value, generally rule so high in price that their profitable use is questionable.

We need either to raise more fodder or keep less stock, especially the unprofitable cows. We are glad to note that a better class of dairy cows is being kept, the milk of which is, in most cases, worked up in the butter factories on the co-operative plan.

The annual butter-factory meetings, which factory proprietors are supposed to hold about this time of the year, are now quite a topic of discussion among dairymen, but usually when the meeting day comes and the dairymen are out in force, the proprietor states what he proposes to do and they vote an acceptance, but the factories are numerous and so situated that nearly every dairymen is within accessible distance to two or more creameries. Therefore as favorable terms as can be made are usually offered to the dairymen.

Last year at this time we were plowing. Now our sleighing has only just broken up, and it will be three or four weeks before we will be likely to plow. Handling manure, cutting up the wood-pile, making sugar and doing chores, will, for the present, occupy the farmer's attention.

Potatoes are selling at seventy-five cents per bushel. Hay \$12 to \$15 per ton. Milk cows are changing hands at from \$35 to \$50 per head. Farm help costs \$1 per day, without board. I. L. SHELTON, Clinton County, N. Y.

Farming on Sandy Land.

In southern New England along the Cape Cod district and thence to the westward are large areas of rather light soil, which is in the average season something of a problem to owners. For land of this kind, rolling and sandy, with sandy subsoil, T. B. Terry gives some rather sensible advice in the *Practical Farmer*. A clover sod turned under enables him to grow forty to fifty bushels of corn per acre and fifteen to twenty of wheat. The land is very easy to work. It is as fine and mellow when first plowed as after being harrowed three times. The sod is not full of roots and tough.

The question is, "How shall this land be treated? Will it pay to do a large amount of harrowing and rolling and stirring of this sand when preparing it for a crop?" No, I do not believe it will. There are no lumps to pulverize and not much plant food to make available by tillage. I should work it enough to fill up open places in the lower part of the turned furrows, and to mix it up or stir it around some, and also to pack it fairly well. In turning over sod there are apt to be open spaces at the bottom of the furrows, even when the top is as mellow as harrowing could make it. A large amount of tillage on such sandy land will not give as good results as on a clayloam soil that is well drained, by considerable. Now, I presume this sandy land will plow easily any time, no matter how dry it may be. And as it has a sandy, leachy subsoil, I should want to keep something growing on it just as nearly all the time as is practicable. So I would advise letting the clover grow in the spring until corn-planting time. Then plow and prepare and plant at once, so as to get the corn growing as soon as possible after the growth of clover has been stopped. I believe this to be a businesslike way of treating such land. Then, further, I would not let the corn stubble lie bare through the fall, winter and early spring. The corn will not use up all the fertility from the clover. There will be some left to leach down when it rains hard. Where wheat is sown in the corn that will do all right. But this friend lives pretty well north for that practice. I would sow rye in the corn to grow in the fall and spring, if wheat is not put in. This sandy land is ideal place for using a weeder, and the cost of going over a field several times is not great. I should aim to scratch this corn field over as soon as dry enough after every rain, and once in four or five days, anyway, from planting time until the corn is too large to use the weeder on. Just how large this will be depends on the season. If it is dry and the corn is tough, the weeder can be used longer than when it is wet weather and the corn is growing fast and is tender. This frequent use of weeder will help to keep weeds down and will check evaporation of water and let the air get into the soil more freely. These are all important matters. When manure is put on this sandy land for corn let it be on a live crop, clover, grass, rye, that is to be turned under, and more than six or eight tons per acre at once.

I give my cows grain in the morning, the first thing after cleaning the tie-up, which they eat while I am milking. After milking I give them a feed of corn fodder if I have it; if not, hay and straw, about two parts hay and one of straw, well shaken together. After I have eaten my breakfast I water and clean the tie-up again. At noon I give them a feed of mixed hay and straw and clean the tie-up once more. About four o'clock in the afternoon I commence to water again. I water my cows in the open air, twice a day unless very stormy, which forces them exercise, which I think is beneficial to them. I clean the tie-up again just before milking, and give them a feed of grain, which they eat while being milked. After milking I feed mixed hay and straw.—F. H. Axtell, Kennebec County, Me.

ration of soil and seeding has a favorable promise of a satisfactory yield, while the average farmer will be the loser, not only of a crop at next harvest time, but will be out the use of his land for an entire season and the whole cost of seeding the crop.

It is not a difficult matter to figure out now what kind of wheat farming pays. So far as our observation extends, the conditions that were most instrumental in securing good prospect for wheat at this time were as follows: First, a good clover sod to be plowed under; second, a most thorough cultivation and preparation of the soil before seeding; third, a good seed and fairly early seeding; fourth, a liberal use of commercial manures. Another factor that has shown favorable results was the light application of a manure mulch, which not only gave protection to the plant, but available fertility as well.

The total wheat product of Indiana for the past year amounted to something over \$30,000,000, so it seems that the farmers here are still competing with those of the great Western wheat country, but to do this successfully the crop must have the best conditions that can possibly be provided to insure the largest yield. And it is not now a difficult matter to point out what these conditions are in the main.

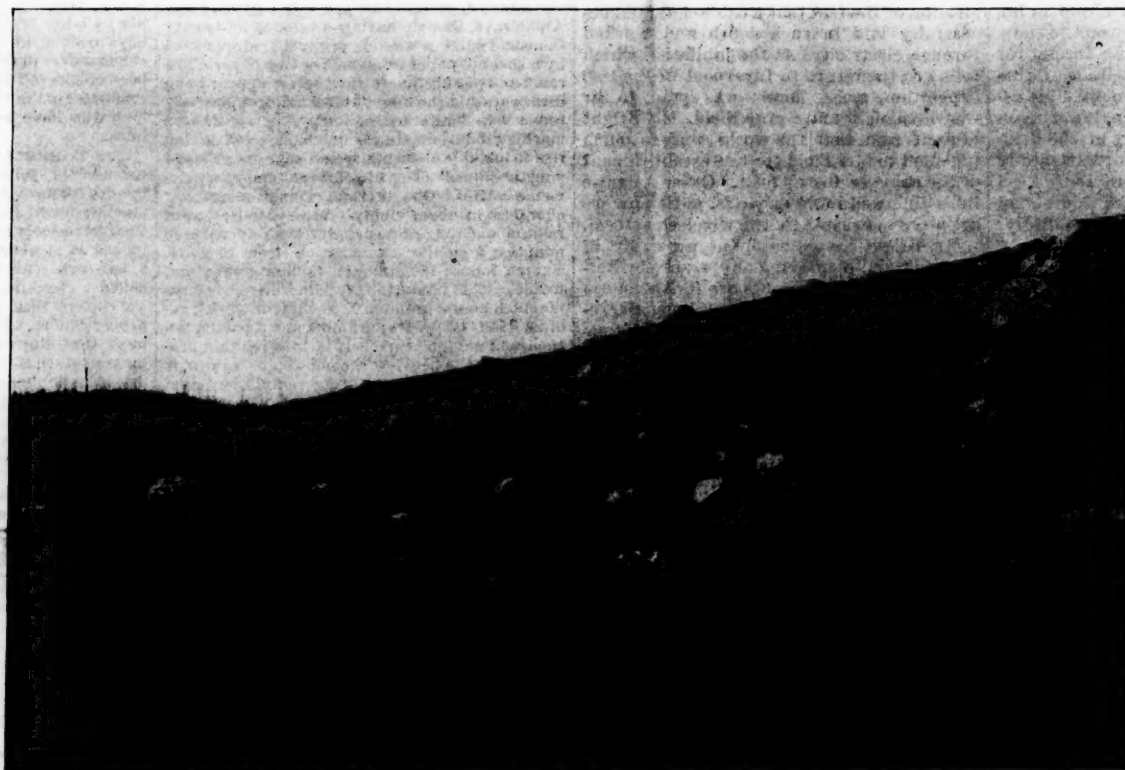
We still have entirely too many "average" wheat growers all over this country that are cultivating this crop at a loss, if time and labor is counted for anything, and it does seem that they could look around and find something else toward which their energies might be directed with more beneficial results.

But in this the same conditions exist, only the very best work counts, and it's labor lost to try to grow a crop of any kind on the farm if anything is to be done in a half sort of way. The farmer who reaps a paying wheat crop the coming harvest will know just how it was secured, and may possibly find some particular points to improve on another season. The fellow that loses a crop may attribute his failure to some unkind act of Providence instead of his own shortcomings, and may still continue on in the business without a proper realization of the fact that only good farming pays. W. W. STEVENS, Salem, Ind.

Farming in Northern New York.

After 105 days continuous sleighing we have again bare fields. The steady cold necessitated feeding out more hay than usual, and as a consequence many farmers find themselves short. Buying hay at \$12 to \$15 per ton is quite expensive.

The increased amount of stock, especially dairy cows, has for some years past used up nearly all the hay grown hereabout, and the hay-press barns, where such large quantities of hay used to be sold for shipment to Boston and other Eastern cities,



SETTING FOREST TREES.
Planting Rocky Ground Near the Line of the N. Y. C. & H. R. R. R. Under Direction of the New York Forest and Game Commission.

they should be applied as early in the spring as possible, as soon as the ground is dry enough to allow of the work being done.

The early rains will then be of the greatest benefit, and the fertilizer will soon become available, producing an early and vigorous growth. On some fields these fertilizers produce most excellent results, paying their cost several times over, according to the experience of the writer.

THE FRUIT TREES.

Farmers in general, wherever soil and location will permit, should grow some fruit. As to whether it shall be made a specialty will depend on conditions too numerous to mention here, but there should at least, wherever possible, be sufficient fruit grown on the farm for domestic uses and in as great variety as circumstances will admit. Fruits are among the most palatable and healthful products that can be raised, and no farmer should long be without a supply. It will not require a very large plot of land for this purpose, and the labor will not be very great.

Farmers generally raise apples, at least, and they should aim to have the best varieties of those that can be grown in the different localities. There should not be too many kinds, but the best that are adapted to any place. The orchard should have sufficient attention and at the proper time. There will be some work necessary to be done this spring.

If the trees are kept well pruned there will not be very much of this work to be done at one time, but the idea should be to keep the trees open at the top, so there can be plenty of air and sunshine, for these have much to do in perfecting the size and quality of the fruit.

Branches should not interlace or crowd each other, and all decaying limbs and sprouts, whether at the roots of the trees or in the tops, should be promptly removed at any time, or, better still, not allowed to grow.

The trees cannot be expected to do their best without being fed, so there should be fertilizers of some kind applied. Manure in limited amount and mineral fertilizers, particularly those containing potash, will be found valuable. Wood ashes make a good fertilizer. If there are any trees in the orchard of no value, out them down and fill their places with good varieties.

EARLY PLANTING.

It is the early vegetable that catches the dollars, especially such crops as radish, rhubarb, spinach, asparagus, peas, string beans, sweet corn and tomatoes. Those who cater to the markets can afford to run some little risk in planting early. The garden intended simply for the home supply will usually produce a greater supply with less trouble if planted only moderately early. Heavy soils are somewhat injured by work-

For the same reason, well-rotted manure is preferred for early gardens because it is ready for the plants to use promptly. Nitrate of soda is a great help for early crop. A little of it sprinkled along the pea furrows and over the beds of radish, asparagus and lettuce will push them along, even if the soil is rather cold.

BUSY DAYS IN THE ORCHARD.

The period just before the planting season begins is a good time to work in the orchard. The young trees may be gone through quickly with saw and pruning shears. Little and often is the rule, particularly for young trees. Keep the shape good and remove crowded and oris-cross growth, cutting clean and close, and putting the brush where it will be out of the way.

Trees should be ordered for planting. Farms with old orchards would be improved in value if there were a new orchard coming on. Don't set poor trees. Better depend upon well-tested kinds for a business orchard. The writer has little use for the systems of wholesale cutting back often advised when setting trees. When the season is at all favorable the trees will live and thrive with no more cutting than is necessary in taking up the tree and getting the top into right shape.

The tree which has been cut all to pieces will, in our experience, not usually catch up with the one cut back but slightly. When setting trees in rough bush land full of roots, it will pay to carry on some good loose soil from the nearest field to fill in around the roots. Trees in such locations will grow but slowly at the best, and require patient waiting.

The orchards on tillage land should be plowed and harrowed early and a hoed crop grown if practicable. If the trees are quite large a good plan is to keep the field cultivated without a crop the first part of the season and plant rye and vetch or clover late in the season as a cover and fertilizing crop. To start slow-growing young trees a large handful of nitrate of soda is one of the best fertilizers to keep the trees growing. Time is money, and good growth is usually good health.

THE POULTRY YARD.

Eggs intended for early sitting should be gathered at least twice a day and kept where there will be no danger of chilling. Hens that want to sit early in the spring are apt to be rather unreliable and should be allowed to become thoroughly started over a nest of chine eggs before being entrusted with a valuable sitting. When a hen really means business, her skin feels hot and feverish, and she usually sheds a few feathers from the breast. Early sittings should not be more than the hen can very easily cover, eleven or twelve being better than a larger number for hens of average size. Build up the nest with plenty of straw, filling with chaff to make a smooth sur-

Dairy.

The Milk Problem.
The semi-annual milk problem is on again for solution, or soon will be, and the New England Milk Producers Association officials and the Boston contractors will again be engaged in their periodical wrestling match. In former meetings the principal object of each party seems to have been to "do" the other fellow.

Now I assume that the producers and contractors are both human; and outside of this milk question would consider each other a pretty fair set of fellows. Both are in the milk business, but represent different branches of it. Each is dependent upon the other for the successful carrying on of the business. Now let them come together as business men and discuss matters in a practical, businesslike manner.

If grain and other commodities necessary to the production of milk have advanced in price, as every producer knows they have in the past six months, the contractor should not ignore this fact, and endeavor to keep the price of milk down to where it was when these commodities were cheaper.

It is a business principle that the cost of production has very much to do in fixing a fair selling price upon the article produced; and this principle should apply to milk as well as to other productions.

If the railroads are charging less than formerly for carrying milk, the contractors must not think it for the purpose of putting the difference in rates wholly in their pockets; let them give the producer and consumer their share of the benefit.

The producers should also bear in mind that the law of supply and demand applies to milk as well as to any other product of the farm, and should not ignore this fact by demanding that contractors take, at a fixed price, all the milk the producers see fit to make and send them. This is simply unreasonable.

The contractors know, and have known for years, that the producers hate anything even remotely related to a "surplus clause" in their contracts. Why, then, do they insist, year after year, in endeavoring to smuggle it into their contracts in some form or other?

The producers know, or ought to know by this time, that to demand a certain price, and threaten a milk strike unless the demand is complied with, amounts to but very little. The milk producers, as a whole, do not favor a strike; and the contractors know this as well as any one. Strikes are not a satisfactory way of settling business differences, for many innocent parties have to suffer as well as the principals in the case, and it is not always pleasant to bite off the nose to spite the face. Contractors must remember that it costs money to produce milk; and producers must remember that it costs money to sell milk.

Now let these parties consider each other as men interested in a common business, and not as antagonists, and consider matters in a kind of "live-and-let-live" spirit. Let them discuss matters pertaining to both the branches of the milk business, fairly, candidly and honestly, and then fix a price and a basis of production fair to both parties. There is nothing unreasonable in the producer demanding a fair price for his products. There is nothing unreasonable in the contractors demanding a basis of production. I am a small producer sending milk on a five-cent basis. This allows me to send as low as three, or as high as seven cents per day. To my mind, such a contract, freed from any semblance of a surplus clause, and having a fixed price fair to both parties, is an ideal one. The producer would then know exactly what he was to receive for his milk during the next six months, up to a certain amount fixed by the basis of his contract. If he wishes to increase his production, he is at liberty to dispose of such increase as he sees fit, either by having the basis of his contract changed with the consent of both parties, or by finding some other outlet for it. The contractors would also know as to the amount of milk they were likely to receive from the various producers. Why cannot a contract of this kind be made? Let producers and contractors remember they are men, and not children, accusing each other of not playing fair. Let them put themselves in each other's places, and each look the matter over from the standpoint of the other. Mix a little of the Golden Rule with the proceedings. I mean the original old-fashioned Golden Rule—not the modern business version. "Do the other fellow or he will do you." Surely men of ordinary intelligence, interested in different branches of the same business, ought to be able to "get together" on a fair basis.

Producers all over New England are tired of these semi-annual wrangles. I do not attempt to fix the blame upon either party. I do not know just where the fault lies. If it is the contractors that are wholly to blame, then let them forsake their sins. If it is the producers, let them forsake their evil ways. If both parties are at fault, let them come together and say, "We have tried to beat each other in the past; hereafter we will deal squarely with each other," then go to work and do it. Fix upon a fair price, a fair basis of production, and bury the surplus clause and all its relatives so deep that it can never be resurrected. Do this, gentlemen, and producers all over the country will rise up and call you blessed.

As to the advisability of the producers incorporating themselves under the name of the New England Milk Producers Association and handling their milk product themselves, is an open question. In entering upon a new business, there are always more or less mistakes to be remedied, and much to be learned by experience; and experience is sometimes a pretty expensive teacher. It is a matter that needs analyzing pretty thoroughly before its adoption. From my own point of view, I do not believe the plan, if carried out, would be a perfectly satisfactory solution of the milk problem.

Columbia, Ct. J. P. L.

The Milk Controversy.
The question of price and basis of shipment of milk to Boston had not been fully settled at time of going to press, although a definite arrangement was expected soon. At this writing it seems likely that the price will be 37 cents, and the basis of shipment will be 37 cents, independent of the combination having shown a disposition to accept that figure. The basis of shipment has been as usual a leading cause of disagreement. Unable to reach an agreement, secretary W. A. Hunter sent out the following vigorous letter this week:

BOSTON, MASS., March 28, 1904.
To the Milk Producers Supplying Milk to the Boston Market:
Gentlemen:—The contractors refuse to give any satisfactory conditions; they offer to take eighty per cent. of last summer's production at one-half cost per cent less than last year or seventy per cent. of last summer's production at last summer's price. The rest to be paid for at butter value if not used as whole milk. The directors will never be a party to a trade on these conditions, as there is no justifiable reason for any such concession on the part of the producers. We have tried to get the contractors to give their ultimatum sooner, so we could have had the matter settled before this time. We feel they have been in the wrong and have not re-

presented our efforts to act fairly and for the best interests of all parties concerned. We have offered to settle on a ninety-per-cent. basis at last summer's price, which was refused. We also offered to an arbitrate, we submitted to the arbitrator's basis and conditions against their taxing seventy per cent. of last summer's production at last summer's price. They refused to do it. We feel we have already gone beyond our limit. The contractors require a vote by cans, we are obliged to refer back to the local sections. Will you take right hold of this matter, sign no contracts until you have the result of the final vote of all sections. Answer nothing but yes or no. Will you hold your milk and try to dispose of it in some other way rather than submit to any such condition? Return your answers at once by a letter, telephone or telegraph, to W. A. Hunter, American House, Boston.

The situation looked as if producers would have to shut off the milk. Wednesday, however, the contractors gave a quiet hint that they were willing to take eighty per cent. of last summer's shipments at a straight 37 cents price. That is to say, the shipper who sent ten cans last summer could ship eight cans this summer at the straight price, but any excess of that proportion would be paid for only at "butter price."

The officers of the union, supported by a very firm attitude on the part of the local unions thus far heard from, were unwilling to concede anything from a ninety-per-cent. basis, but at last accounts there was some prospect that a compromise might be arranged on an eighty-five per cent. basis. These negotiations so far have been free from the sensational features and newspaper excitement which has sometimes attended them. The contractors say that not much over eighty per cent. of the milk was sold last summer. The producers declare that milk will cost more to produce this summer, as the unusually good pasture conditions of last year are not likely to be repeated while the outlook is for high-priced grain and millfeed. They say that if the basis of shipments is reduced, the only result will be to cause a shortage, as farmers will not feed high-priced grain to make milk at surplus prices. However, if the contractors insist on the fifty-five per cent. limit, it will probably be submitted to vote of the local producers.

Agricultural.

Forest Animals in Winter.

I had not gone far into the woods, when, in passing a low-growing wild apple tree, I noticed that the surface of the snow beneath it had been disturbed in an irregular manner. It was furrowed, and here and there there were holes, leading into little runways, which extended downward as far as I could see. The holes were much too large to have been made by a mole-monoclonous, and too small for a muskrat, and I doubt if I should have discovered what animal had made them if the impudent head of a red squirrel had not appeared suddenly at one of the holes. He had a look of astonishment on his face, and a small apple in his mouth. He dropped the latter on the snow in front of him, but retained the former for about five seconds, or until, with a frightened squeal, he darted to the invisible regions below. The little apple, lying upon the snow, told a pathetic story of the little fellow's hunger, and of his efforts to satisfy it, and I wondered if he had any sense enough to tell him where each individual apple lay, or whether he tunneled blindly, with the hope of finding one occasionally.

Further on, I came to a stretch of half-open country, covered with barberry and other bushes. And here I found the paths which the rabbits had made the night before, and all along these paths the twigs of the bushes under which they ran had been cut off clean, as though with a penknife, by the sharp front teeth of the rabbits. And thus the snow, which had done the animals an injury in one way, by covering up their food upon the ground, served them well in another way, by lifting them to a height at which they would crop the tender twigs nearer the tops of the bushes.

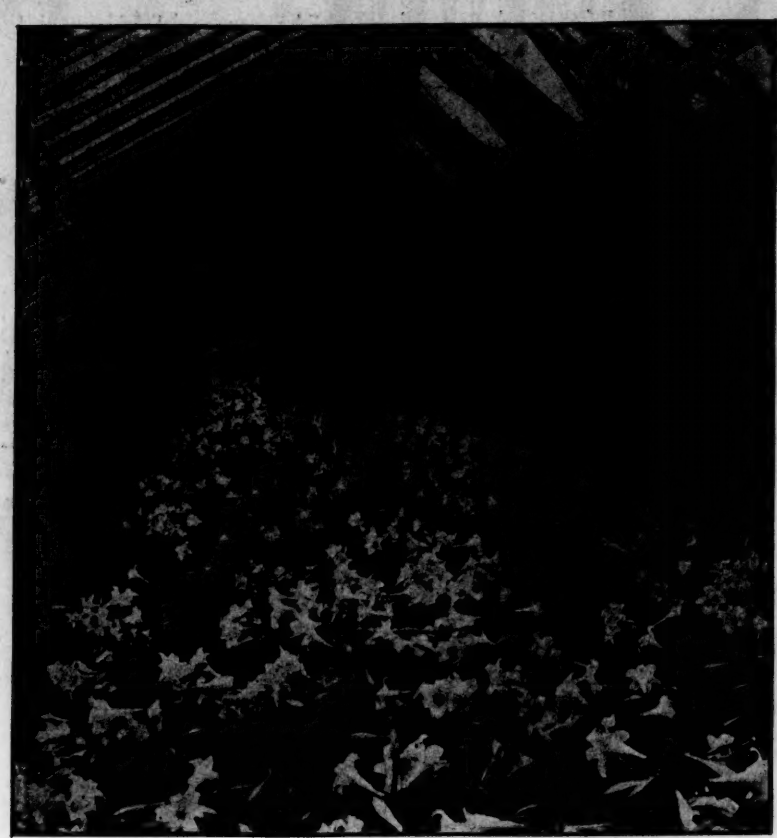
The grouse, too, had made use of the deep snow as a platform, from which to pick the barberries. In spite of their natural quiescence, the birds had sunk quite deep in many places, and their trail was little more than a gutter. And as I passed one of the bushes I saw an old bird's nest which had been roofed by a white-footed mouse, and as I touched a twig, the tenant put his head out of the door to see what the matter was. But I stood very still, and presently he went in again, perhaps to curl up and go to sleep until the fall of night should make it comparatively safe for him to go out in search of food, and to leave his ice-like trail on the surface of the moonlit snow.

But the most delightful incident of my walk occurred when I was nearing home. A flock of hungry chickadees flew into a maple tree above me, perhaps knowing that I had something to do with the many square meals they have enjoyed this winter. One of them hopped to a branch close above my head, and I felt in my pocket for some broken nuts. Taking off my glove, I extended the hand containing the offering, and I had his earnest attention in a moment. Down he came close to me, crying "Dee-dee-dee," and peering into my face with his beady black eyes, as much as to say: "Is it all right? Come now, is it?" But, without waiting for a reply, he flew upon my finger, calmly picked up a piece of nut, and flew back into the maple tree. With my finger delightfully tingling from that delicate grasp, I went home feeling as though I had shaken hands with a fairy.—Ernest Harold Baynes.

Literature.

It would seem as though the story of the laying of the first cable which connected the old world and the new would hardly prove of sufficient importance at this late date to warrant the publication of the same in a book, but, nevertheless, Charles Bright tells of his father's great achievement in detail in the book before us. He says that the jubilee of submarine telegraphy, having lately been achieved, and that connected with the Atlantic cable being somewhat close at hand, the present seems to be a suitable moment for the appearance of this little volume. By a somewhat curious coincidence, he says, the engineer of the first Atlantic cable accomplished his achievement at practically the same age (twenty-six) that Mr. Marconi first transmitted signals across the Atlantic by wireless telegraph.

The book takes up the beginnings of the electric telegraph, giving a brief history of the early submarine cables. It then follows the story of the formation of the Atlantic Telegraph Company and the activity of the projectors of the transatlantic cable, John Watkins Brett, Charles Tiltton Bright and Cyrus West Field. Mr. Bright being chief engineer as well. The following chapter is devoted to the "first start" and its discouraging failure. Eventually the additional capital was secured and another attempt was made to span the ocean. A storm seriously interfered with successful operations for a while, but even a second disaster did not entirely dishearten the more ardent projectors and eventually a landing was made at Newfoundland. When in August, 1858, the first message was sent over the wires, which linked the old world with the new, there was almost universal rejoicing in England and America. Chief engineer Bright was banqueted and knighted.



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EASTER LILIES.

Then after the first messages had been sent and received, their came a gradual falling of electrical power which resulted in a total collapse of the usefulness of the historic sea-line. Then followed another period of gloom, but commercial success was not far off, and after the recovery and completion of what is called the 1863 cable, transatlantic communication was restored. The main feature and accomplishment in connection with the second and third Atlantic cables of 1865 and 1866 was, says the author, the recovery of the former in deeper water than had ever been before effected, and in the open ocean; just as in the first 1858 line it was the demonstration of the fact that a cable could be successfully laid in such depth and worked through electricity. At the jubilation which followed the return to Liverpool of the 1866 expedition, great honor was paid to Sir Charles Bright and Cyrus Field. Mr. Bright himself said that the world was as much indebted to Mr. Field for the establishment of the cable as to any man. Other Atlantic lines followed in later years, until now we are more interested in the wireless system.

Mr. Bright has set before us an array of facts without displaying any marked literary skill. His statements are for the most part fortified by extracts from journals, reports, etc. There is an abundance of illustrations, small half-tones and cuts in the text. (New York: D. Appleton & Co. Price, \$1.00 net.)

The story of the exploration of the Nile and its basin is a story of the achievements due to the curiosity of humanity, or, to be more specific, of a few adventurous individuals which represent the Caucasian race. From the day when the first men from India entered Egypt and traveled up the valley of the Nile (at the end of the Pleistocene period or beginning of the Quaternary Epoch) down to the more recent visits of William Garstin, the sources of the Nile have been a fascinating geographical problem.

The story of the manifold attempts of explorers to penetrate the darkest portions of the Dark Continent is told by Sir Harry Johnston, president of the African Society, in a straightforward manner, concisely and adequately, in this book, which is one of a series edited by Dr. Scott Keltie, known as "The Story of Exploration."

It was in the search for the Nile sources that the territories now forming the Uganda Protectorate were laid bare to the gaze of the civilized world, and, as the author has already written a work on the Uganda Protectorate, he is unusually well equipped for the writing of this book on the Nile Quest. He tells us of the interest which the Greeks took in Nile research, how Portugal and France endeavored to add to the world's store of knowledge in this particular, and then of the later and more important explorations of English, German and American searchers. James Bruce was the first of the group of notable British explorers, who, between them, in a century and a half have laid bare to the world nearly every notable feature in the geography of the Nile. His journeys in Abyssinia and along the course of the Nile occupied nearly three years, from the middle of 1770 to the beginning of 1773. Yet when he published his travels in 1790 the volumes were received with universal credulity in Great Britain. He was really a great traveler whose works are worth reading today; he was also a far-sighted imperialist, for in 1775 he conceived the need of the English rulers of India controlling the Egyptian route. Burton and Speke added materially to the world's knowledge of this region in Africa, although the Burton-Speke expedition into Somaliland got no great distance inland and ended in disaster, owing to the suspicions of Somali. Speke's great book, "Discovery of the Source of the Nile," is said by Mr. Johnston, in light of more recent explorations, to be singularly truthful. Speke broke the back of the Nile mystery just as Stanley did that of the Congo. It only remained henceforth to fill up the minor details of the map. Samuel Baker contributed largely to our knowledge of Lake Albert Nyanza, and he is today regarded as one of the great explorers of the Nile. The subsequent explorations of Alexander Tinné, Schweinfurth, Stanley, Gordon, Joseph Thomson, Macdonald and Donaldson Smith complete the story.

There is no single book which contains so much interesting information concerning all of the Nile explorations, although many, such as Stanley's, for example, are fascinating accounts of individual experiences. The book closes with a list of modern Nile explorers; a bibliography, and a copious index. There are many illustrations of real value. (New York: Frederick A. Stokes Company.)

Popular Science.

—The vibrochord, or music-feeling machine of Mr. Fred H. Brown, an American electrician, consists of an induction coil arranged to transform the vibrations of a piano or other instrument into electric pulsations, and transmit them through the human body. Wires lead from the musical instrument to the coil, while wires from

the coil are held in the hands, the feet resting on a metallic plate. The waves of harmony thrill the entire body, the difference in tones is very perceptible even when this walks out of all sound, and favorite airs produce more agreeable sensations than those whose sound is not pleasing to the ear. Music-feeling, claimed to have great healing value, is now prescribed for insomnia, rheumatism, nervous prostration and many other ailments.

The new world to which the radio-active substances have introduced us, is yet one of mystery and doubt. In a recent English lecture, Mr. F. Soddy pointed out that more than ninety-nine per cent. of the energy given off by radium is represented by the Alpha rays, but that the three kinds of radiation all excite fluorescence in certain substances, affect the photographic plate, and ionize or electrify air and other gases. The Alpha rays, though having a velocity of twenty thousand miles a second, are easily stopped, as by a sheet of paper or an inch or two of air. The radio-active substances themselves appear to be disintegrating, the heavy atoms being explosively reduced to lighter ones, temporary substances marking different stages of change, and giving rise to unstable elements, which have been named "metabolites." The life of these temporary elements varies. One thorium emanation changes character in about eighty-seven seconds; that of radium existing radio-activity lasts forty-three minutes; a similar emanation from thorium, sixteen hours; the ordinary radium emanation, five days eight hours; the thorium X-ray, five days sixteen hours; uranium X, about four weeks; radium itself, 1580 years; uranium and thorium, ten thousand million years. It is inferred that uranium, with the heaviest atomic weight known, is slowly breaking up, producing radium, actinium and polonium as transition forms. The atoms of ordinary chemistry seem to have reached a stable condition and are those of longest life, but it is assumed that even these are but temporary halting places in the evolution of matter from heavier to lighter forms. When the decay of matter is being offset by repair, that is, whether condensation of atoms is still in progress as in the beginning of the universe, is a question still beyond the power of science to answer.

—The demand for industrial power is leading to the use of water power, and the use of water power is leading to the use of water power. The scheme of the French engineers to obtain some fifty-thousand horse power from water falling into the Dead Sea is based on the fact that the level of that body is more than 100 feet lower than that of the Mediterranean Sea, and on the probability that the enormous evaporation—six million tons a day—would prevent any appreciable rise in level from water turned into the depressed basin. On three projected routes for a canal to supply the water, it is believed the cheapest would be one starting at Akaba, in the Red Sea, and passing through the desert of Wady-el-Jebel.

—It appears to be probable that hypnotism can stop a person's heart and thus cause death. A. Jouet, a French investigator of the subject, reports that he has increased and diminished the number of a man's pulse beats at will, and as far as the heart is concerned, he has been able to stop it. It is proven, therefore, that the circulation is seriously affected, even if it is not quite certain that the heart can be stopped.

—Kleptomania has been placed by a French physician in the list of diseases, under the name of "magnomania." He records that eighty per cent. of the patients are women, and that nine out of ten are well-to-do or wealthy. Recovered goods are often useless, almost always unaltered.

—Sir Hiram Maxim and others are said to have found that non-magnetic metals may be separated rapidly drawing a series of electro-magnets past the metallic dust. Copper, for example, is attracted by the electric current set up.

—The magnet has been shown by C. Gutton, a French physicist, to cause a brightening of phosphorescent zinc sulphide similar to that produced by X-rays. It seems to be capable of giving this effect only where the lines of magnetic force are not parallel, but no explanation is given.

—Electricity plays many parts on the Baltic. The new White Star liner Anson, electric collision-preventer registers even the beats of the screws of an unseen steamer, another electric device shows the proper burning of the ship's lights, an electric log gives the speed, an electric lead indicates the depth of the water, and an electric apparatus registers all signals including steam, fog, and wind. Food is served by electric refrigeration as well as electric cooking.

—From recent photographs, the craters and craterlets of the moon are estimated to number more than two hundred thousand, but less than a million. White patches in some craters and of miles are thought by Professor Pickering to be due to snow, and the less conspicuous lunar canals, which gradually appear, increase and fade away in the lunar day, are attributed by the same authority to vegetation. A thin atmosphere of carbonic acid and water vapor may feed the plants.

Notes and Queries.

LOUISIANA PURCHASE.—"Eleonor": Two hundred years ago a large portion of what is now our country, between the Mississippi and the Rocky Mountains, belonged to France. This great country was named Louisiana in honor of King Louis the Grand. After her defeat in the Seven Years War France gave Louisiana to Spain. But in 1800 Spain gave it back to France. In 1803 Napoleon wished to go to war with England, but he had no money to begin war, for France was bankrupt. Hence he sold Louisiana to the Americans, because he hated England. The United States paid \$15,000,000 for the Louisiana Purchase, of which sum Napoleon received only \$11,250,000, the remaining \$3,750,000 going to pay certain claims that American citizens had against France. The Province of Louisiana contained 550,000 acres, for which Napoleon received two cents an acre. It was the cheapest and best bargain that the United States ever made. The Louisiana Purchase is as large as thirteen New Englands. It is as large as Britain, the Netherlands, Belgium, France, Spain, Portugal, Italy, Switzerland and Germany put together.

gether. From the mouth of the Mississippi north to the Canadian border, all on the Louisiana Purchase, measures 2540 miles. The census of 1900 gives this section a population of fifteen million.

IVORY NUTS.—"K": The ivory plant is one of the marvels of the age and is rewarding its growers with vast fortunes. The nuts are brought to the United States by shippers and are shipped across the continent to the big button factories, from which they issue forth in every conceivable design, color, grade and class of button. The ivory plant has recently been discovered in California, but the nut it produces in its wild state is of inferior quality and will not produce good buttons. It is believed, though, with the proper cultivation the fruit would be as valuable as the Central American nut. The growing of buttons in America would become an industry of importance. The best ivory nut for commercial purposes is found on the banks of the River Magdalena, in the United States of Colombia, where by some it is called the Taquia palm. The fruit forms a globose head about twice the size of a man's head and weighs from twenty to twenty-eight pounds. The head is a kind of cluster of bulbs, and in all contains from fifty to sixty seeds. The seeds are allowed to rot, and are harvested several times a year by the natives. The United States consumes more than one-half of the world's product of ivory nuts, and nine-tenths of the vegetable ivory is manufactured into buttons.

SALARIES OF RULES.—"Jason": The bill introduced in the Senate by Senator Jacob H. Gallinger, Republican, of New Hampshire, would increase the salaries of the executive officers of the Government, and also of senators and members of the House of Representatives, as follows: Salary of the President, \$75,000; Vice-President, \$15,000; Speaker of the House of Representatives, \$12,000; members of the Cabinet, \$15,000 each; senators and members of the House, \$8,000 each. The bill also provides that the new salaries shall take effect March 4, 1905. The salaries at present are: President, \$50,000; Vice-President \$8,000; Speaker of the House of Representatives, \$8,000; members of the Cabinet, \$8,000 each, and senators and members of the House, \$6,000 each. The bill also provides that the new salaries shall take effect March 4, 1905. The salaries at present are: President, \$50,000; Vice-President \$8,000; Speaker of the House of Representatives, \$8,000; members of the Cabinet, \$8,000 each, and senators and members of the House, \$6,000 each.

The civil lists of European sovereigns show what they receive each year from their governments for expenses—and all have private fortunes besides—as follows: Emperor of Austria-Hungary, \$3,875,000; King of Bavaria, \$1,475,000; King of Belgium, \$665,000; King of Denmark, \$227,775; and Crown Prince, \$33,330; King of Greece, \$260,000; King of Italy, \$2,868,000, of which \$190,000 is for his family; Queen of the Netherlands, \$250,000, also a large revenue from her domains; King of Norway and Sweden, \$675,000; King of Portugal, \$654,400; King of Prussia, \$3,852,775; King of Roumania, \$237,000; Czar of Russia, \$12,000,000; King of Saxony, \$735,000; King of Serbia, \$240,000; King of Spain, \$2,000,000; Czar of Wurtemberg, \$449,000; King and Queen of Great Britain, \$2,300,000, and \$470,000 to members of the royal family.

JAPAN'S NAVY.—"V": Japan has a navy of 123 vessels, many of them first-class fighting craft. Up to 1865 she never owned a warship, and apparently did not know what a navy was. She took her first lesson by getting some of her boys trained at Annapolis, and the principal commanders in the operations that have thus far been conducted on water have been either these graduates of the United States naval academy or men who have been educated along the same lines.

GUN BARRELS.—"Hunter": Many are bored through the solid rods that are received by the factory somewhat over the right length and diameter; bored by powerful machines that carry their keen tools through the thirty to forty odd inches of steel as one might an anger through a two-inch plank; bored, perhaps, by what is called a chucking machine, driving from four to six cutters through in succession to obtain the proper calibre, with a final bore for absolute true-ness, that stops about three inches from the muzzle, when a special tool shaves the remainder so as to diminish the size of the bore at the muzzle by about thirty-three one thousandths of an inch, and that is called the choke. These are the barrels, according to Outing, that have no fancy figure on their surfaces nor in the catalogues; and, if your barrels are beautifully marked with a cutting, interesting tracery, they were made by a very different process, and those delicate lines are the evidence of foreign manufacture and the acme of metal working for lightness and strength, and not the chemical action of some mysterious acid upon ordinary gun steel, as many suppose. Navy gun barrels are welded into a solid bar, which is drawn down into rods about a quarter of an inch square. These rods are twisted, rope-like, sixteen to twenty turns to every inch of length, laid together in sets of three, and the twists in opposite directions, again squared, and then welded into ribbons of widths from one-half inch up. The ribbons are coiled about a mandrel of the required diameter and welded into a seamless tube. The entire process, particularly at this stage, requires great skill, for the correct contour of the barrel, as well as the evenness of the figure, depends upon the hammering. It is by the different alterations of iron and steel in plating and the subsequent twisting that the different figures in the barrels are produced. The white marks of which are the iron, the dark steel.

GEOMETRICAL CLOCKS.—"R. M.": These clocks, which indicate the time in every part of the world, are by no means new, but the one invented by Charles D. Davis of Chicago is said to possess many novel features. The dial is totally unlike that of the ordinary time recorder, in that it contains 240 marks where the minute marks are usually placed, these marks representing the 240 degrees on the earth's surface. On the outer edge of the dial, where the twelve-hour regularity are usually placed, are twenty-four figures representing the full day. The minutes are denoted by marks on the inner circle, but two dots are required for five minutes, because there are twice as many characters on the face as on the ordinary clock. The dial is divided in the centre from the six mark to the opposite six mark. The twelve hours of the day are distinguished by light spaces and the remaining twelve hours by dark spaces. The hour hand is stationary at the point which is marked central time, while the minute hand revolves as on the ordinary clock. To determine the time it is only necessary to locate the city or country on the red dial and read the time in relation to it as on an ordinary clock.

THE LINE STORM.—"Inquirer": Among the popular fallacies relating to the weather that persist in spite of the efforts of meteorologists, is the occurrence of a "line" or "equinoctial" storm, on or about Sept. 21. Notwithstanding various statistical and other studies, this storm or gale is still anticipated, and while some storms have occurred at this season occasionally, yet there have not been enough recorded to justify their name or the customary anxiety for their occurrence. A writer in a recent Harper's Weekly tells of a further contribution to the literature on the subject which has recently been made in a tabulation of the daily rainfall

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All the above may be obtained from the Secretary, F. L. Houghton, Putney, Vt., or from the nearest agent of the Association. For registration of all dead animals, \$1.00 each, postage paid; For registration of all live animals, \$1.00 each, postage paid; For registration of all live animals, \$1.00 each, postage paid.

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Transfers are recorded free, if presented within 30 days from date of registration. Transfers presented after 30 days, \$1.00 each.

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Doultry.

Farm Duck Keeping.

Any calculation as to the return to be expected by those who keep ducks, depends entirely upon the possession of a suitable locality. They are most likely to be kept with profit where access is allowed them to adjoining marsh, where they are able, in a great measure, to provide for themselves; for they wholly dependent on the breeder for their living, they have such ravenous appetites that they would soon, to use an emphatic phrase, "eat their heads off." No description of poultry, in fact, will devour so much, or feed so greedily. The excursions allowed them must be limited to a short distance, otherwise they will gradually learn to absent themselves altogether, and acquire rather wild habits, so that when they are required to be put up for feeding or immediate sale, they are often found missing and difficult to find.

Ducks, too early allowed their liberty on large pieces of water, by land and water, that few reach their maturity, and, even if some are so fortunate, they are not disposed afterward to return to the farmyard and submit quietly to regular habits. They may be kept in health in small enclosures, by a good system of management, though, we fear, with very little if any profit, which is the point to which all our advice must tend. There is no doubt that ducks may be made profitable as egg producers, but the quality of their eggs and the extra labor required to obtain them (for, unless they are got up every night and confined, they will drop their eggs carelessly here and there, where many of them will not be found) will not allow them to compete with the hen in that capacity. Also, a duck lays when eggs are most plentiful, while hens' eggs may be procured at all seasons.

The best mode of rearing ducklings depends very much on the situation in which they are hatched. On hatching, there is no necessity of taking away any of the brood, unless some accident should happen; and, having hatched, let the duck retain her young upon the nest her own time. On her moving with her brood, prepare a coop and pen upon the short grass, if the weather is fine, or under shelter, if stormy. Keep a wide and shallow dish of water nearby them, and renew the water quite often.

Their first food should be crumbs of bread, moistened with milk; curds of eggs, boiled hard and chopped fine, are also relished by them, and are good for them. After a few days, Indian meal boiled and mixed with milk, and if boiled potatoes, mashed, be added, all the better. All kinds of sopped food, buckwheat flour, barley meal and water, mixed thin, worms, etc., suit them. They are extremely fond of angleworms, grubs and bugs of all kinds; for which reason it may be useful to allow them a daily run in the garden. All the different substances mentioned agree with young ducks, who show from their most tender age a voracity which they always retain. It is necessary, to prevent accidents, to take care the ducklings come regularly home every evening, and precaution must be taken before they are allowed to mingle with the old ducks, lest the latter should ill-treat and kill them, though ducks are by no means so quarrelsome and jealous of newcomers as common fowls always are.

The Pekin duck is the only kind extensively grown at present, and it is probably the most suitable variety where ducks are to be raised in a wholesale way for market. The River, Blue Swedish, Aylesbury, Cayuga and Indian Runner breeds have good qualities when only a few ducks are to be kept. The Pekin is a white duck, hardy, docile, quick growing, and a good layer of large white eggs.

Practical Poultry Points.

In dressing capons they should always be dripped and feathers left on the neck, wings, legs and rump, and the tail and wing feathers should be left in. Do not dress out any capons that weigh less than seven pounds each. Keep the small ones until they grow a little heavier.

The breed of turkeys raised does not make so much difference as the breed of chickens. Any kind of turkey will bring the market price if it is plump and fat, although the Bronze seems to be the best all-around breed, and the blooded stock will fatten more quickly and at less expense than the common run of fowls.

In raising ducks, never keep anything but white-feathered stock. The Pekin duck is the best and always brings the top of the market. With geese, only the largest breeds should be kept. The Toulouse, African or any other large breed is all right, and it costs no more to raise a large bird than a small one. The market is never overstocked on large, fat geese.

It is hard to get hens to set in winter and it is almost necessary for the farmer to use incubators to raise broilers in time to bring the best prices. The incubator on the farm is being brought more profitable use every year. There is no doubt that the incubator and brooder method of raising chickens is a wonderful improvement on the hen method. It is cheaper and a greater number of fowls can be raised from the same number of eggs. Hens can be made to lay nearly double as many eggs if they are not required

to set, and it is a good plan to use incubators instead of taking the hens from their work. The incubator is no longer an experiment. There are several first-class machines on the market, and no mistake can be made in buying any one of a half a dozen leading machines which are guaranteed to give satisfaction.

Eggs Up Again.

The demand for eggs has been simply enormous. Large arrivals have been rapidly distributed, leaving but a light reserve supply in many of the large centres. The big demand, partly due to the Easter season, and also the prevalence of speculative buying has lifted the market from one to two cents above last week's prices. Big sales are being made of Western eggs to be delivered this month in store for cold storage. The going prices in Eastern cities for this grade of eggs are 17 to 18 cents; 17 cents is a fair average in New York and 18 cents in Boston. This range is expected to last through April, the storage season. Some Boston dealers look doubtfully on the prospect. "Storage eggs are too high," said one, "and somebody will get stuck; but it's a good thing for the farmers." The idea is that so many eggs will be stored and the cost, storage and interest will be so expensive that the cold-storage men will lose money on eggs next winter just as they are losing it on butter this year. They say that in the event of hard times the demand would decrease, as eggs are regarded somewhat as a luxury. Other dealers say that the laying season will be shorter than usual, and the current demand will use up the surplus, so that none too many will go into storage. Whatever happens, it looks as though farmers would get a good fair price right through the season. It is stated that forty thousand cases of eggs have been stored in New York and vicinity, and that the amount in storage in Chicago is greater than ever before so early in the season. Duck and goose eggs are in light supply, and more could be sold at good prices.

Horticultural.

Fertilizer and Spray.

For a general fertilizer for garden and greenhouse work, I would suggest: Two hundred pounds of fine bone, five hundred pounds of nitrate of soda, four hundred pounds of muriate of potash, three hundred pounds of sulphate of ammonia, which mix thoroughly. Some of our experimental stations say that the horticulturist cannot afford to use bone. In my own experience of twenty-five years I have never found a gardener that you could persuade to do without it. One of your most successful exhibitors of chrysanthemums says, "I use bone liberally in my compost heap, and when I prepare my beds in the houses I fork in another lot, and again the middle of the season." His exhibits are all first premium. On my own place we use it liberally inside and out and down grown with it show a decided improvement in petal and foliage.

LIME, SOAP AND OIL.

I have great faith in lime, used with judgment. A garden that has been heavily manured for years with stable manure that does not respond can be treated with a dressing of lime in the fall and plowed in, then a light dressing in the spring and harrowed. An orchard that has green crops, if plowed under sometimes will show mould, especially in the wet season; or any land that may be sour will be benefited. Greenhouse beds are benefited by an application once a year, early in the fall, also compost heaps that are full of worms.

A simple remedy, and effective if used upon the first appearance of lice on house plants or any out-of-door plants, roses, sweet peas, nasturtium, chrysanthemums, geraniums, melons, cucumbers, etc., is a solution of Ivory soap. Two applications should be sufficient. I have had good success in treating San Jose scale with two pounds of whale oil soap to one gallon of water and one pint of kerosene oil, applied to the trunk of the trees and branches with a paint brush as high up as my time and patience will allow, spraying the balance of the tree with the same solution.

A. A. HIXON.

Worcester County, Mass.

Mulch for Fruit.

A correspondent recently sent to the Maine Agricultural Experiment Station the following questions, which were answered by Prof. W. M. Munson, as being "shingle hair" better mulch for apple trees than sawdust? Is there any objection to pine needles as a mulch for gooseberry bushes?

Shingle cinders ("shingle hair") are excellent for mulching either apple trees or strawberry plants. As in the case of sawdust, it is better to use material that is not quite fresh; or take precautions so as to keep it from packing closely about the base of the tree. Sawdust is the most satisfactory material ever used at the station as a winter protection and summer mulch for strawberries. It conserves the moisture effectively and is free from weeds.

The best mulch for gooseberries, as for other small fruits, is a fine dust cover provided by thorough cultivation. If for any reason this cannot be given, I see no objection to the use of pine needles or the "shingle hair," referred to above.

CHARLES D. WOODS, Director.

Cover Crops or Mulch.

Cover crops act as mulch half the year, and when plowed under, become plant food very soon. If left on the surface, they in time become plant food also. Doubtless a heavily mulched orchard suffers less from changes of temperature and variation of rainfall than one unmulched.

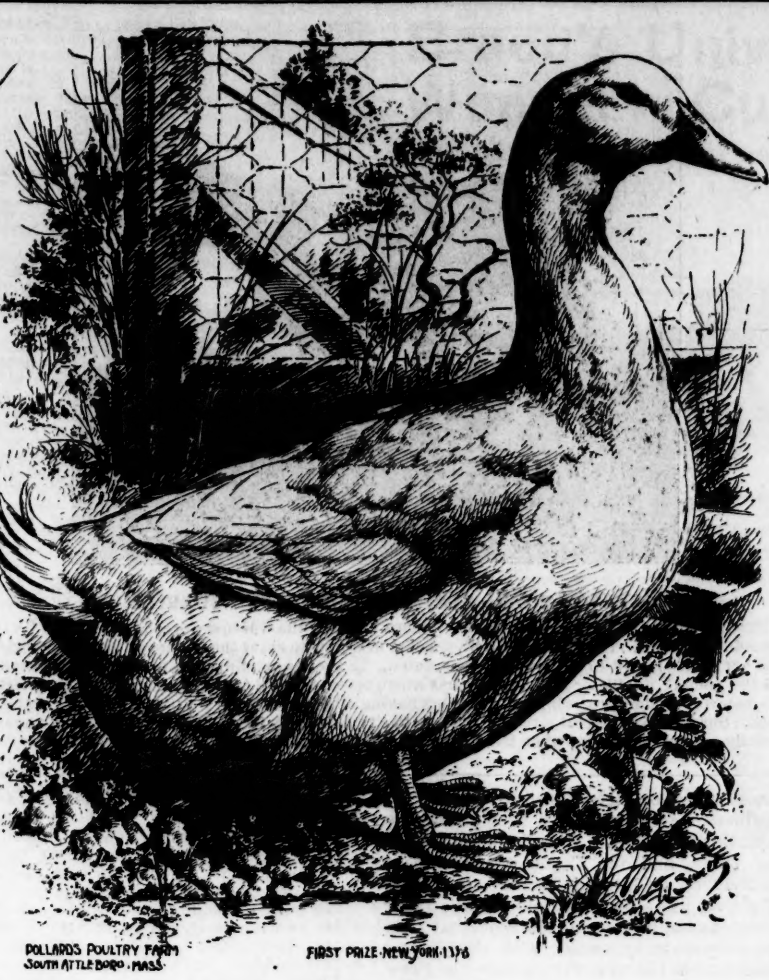
W. J. GREEN.

Quiet Trade in Apples.

The moderate depression in prices noted for the past fortnight continues, but with some little improvement in the best grades. Unfortunately the proportion is large of arrivals showing the bad effect of long keeping and warmer weather, and this circumstance keeps prices down for all but the best lots. The demand is only fair, being lessened somewhat by warmer weather and by the growing supplies of strawberries, rhubarb, etc. The foreign markets continue less satisfactory than formerly. Many dealers think both the domestic and foreign markets will recover a little later in the season, on account of the very limited supply of apples supposed to be in reserve.

The total apple shipments to European ports for the week ending March 26, 1904, were 26,311 barrels, including 4400 barrels from Boston, 11,033 barrels from New York, 7137 barrels from Portland, 1900 barrels from Halifax and 1641 barrels from St. John, N. B. The total shipments included 15,800 barrels to Liverpool, 117 barrels to London, 617 barrels to Glasgow and 617 barrels to various ports. The shipments for the same week last year were 37,093 barrels, against 15,602 barrels for 1902. The total shipments since the opening of the season have been 3,382,337 barrels, against 2,423,302 barrels for the same time last year. The total shipments this season include 639,268 barrels from Boston, 1,075,445 barrels from New York, 241,411 barrels from Portland, 728,132 barrels from Montreal, 495,510 barrels from Halifax, 75,043 barrels from St. John and 14,668 barrels from Annapolis.

Latest cable advice to C. A. Cochrane give foreign apple markets as active and strong of all fine-conditioned fruit, but very little of late ar-



PRIZE-WINNING PEKIN DRAKE.

ivals are such. Many lots arrive in a very slack and waxy condition, and such sell at very low and irregular prices. Fine conditioned fruit is selling to good nets in Boston and New York of \$2.25 to \$2.75 for Ben Davis, Says and Russets. A few very fine Russets \$3, Baldwins \$2.50 to \$2.75.

Slow Trade in Vegetables.

Dealers complain that the demand for green stuff and fruit has fallen off since the warmer weather. The market is quiet and quite a number of items quote lower, while but few range higher. Onions are more plenty and lower. The same is true of parsnips, hot-house tomatoes, beet greens and asparagus. Southern tomatoes, peas, strawberries. Cabbage holds about steady, but the supply from the South is increasing. The general tendency of Southern truck is downward as the season advances, but now and then there is temporary scarcity in some lines. Gardeners in Florida and the extreme South complain of drought, which has kept back their crops. In other ways the South has been doing well, and big shipments may be expected later. Native turnips, beets and carrots hold as last quoted.

The Grain Markets.

The price of wheat went down a peg or two since last quoted, but has now returned to above the former price. Bran and other millfeeds are a little lower than last week. Corn meal shows about one cent advance in price.

The reappearance of the Balkan war scare is held responsible for the latest rise in wheat. This influence is slightly strengthened by talk of poor wheat conditions. The crop began the winter with the soil too dry, but it has, in most sections, been well protected by snow, and although backward, like all other growths this spring, it is probably so far in condition of average promise in the leading wheat districts, stories to the contrary notwithstanding.

Snow, the well-known statistician, is, however, inclined to a gloomy view. He says that with the exception of the lake districts snow protection was insufficient, and there has been more winter-killing than for some years. South of the Ohio valley the outlook is very poor and much will be plowed up. Southern Ohio and Indiana experienced an ice blanket during portions of January and February, and winter killing, he finds is widely reported.

Illinois showed rather better, but wheat seeded on corn land failed to get a vigorous stand, and the average of condition is low. Missouri had a cold, dry winter, and the crop is spotted in appearance. Kansas and the South are in dry all fall and winter and the plant is small. Winter droughts, however, are not very fatal, and with plenty of spring moisture the crop will rally very much. Recent rains have given a fair supply of moisture in some of the heavy wheat districts of the South-east. The crop all along the Pacific region is admitted by everybody to be very promising.

Current Happenings.

Ex-Mayor William R. Grace, whose death was recently recorded, was a philanthropist as well as incorruptible politician. He was a man of large business interests who first became known to the general public as a generous contributor to the Irish famine relief fund in January, 1880. At that time the United States sent the Constellation with Commander Potter to New York to load with stores for the starving people of Ireland, and Mr. Grace contributed one-quarter of the cargo and superintended the loading of the vessel. Mr. Grace also founded an industrial school, now known as the Grace Institute. He bought for it the building known as the old Moore Mansion on West Sixtieth street, one of the landmarks of the American Revolution. The institute is entirely unsectarian, though it is in charge of Roman Catholic sisters, and people are welcomed there without regard to creed. It has now one thousand pupils, who are taught cooking, dressmaking and stenography. They are not confined to the city of New York, but come from long distances to benefit by the lessons. In order to make them feel that they are not paupers, a charge of five or ten cents is made for each lesson. All applicants of eighteen years or over are welcomed. Mr. Grace was a member of the Chamber of Commerce, New York Historical Society, New York Zoological Society, New York Botanical Garden, American Geographical Society, New York Genealogical Society, American Museum of Natural History, Metropolitan Museum of Art, and numerous other associations, charitable and otherwise.

At Smith College, Northampton, last week, Miss Jane Addams of Hull House, Chicago, delivered an address under the auspices of the College Settlement Association of Smith. She called attention to the immense influence Hull House had among the foreigners in its district because it aimed to reach the better side of the lives of the immigrants by appealing to their natural instincts, by the classical play of Greece, and by awakening the interest of Italian women in the spinning and weaving pursued by their ancestors. This, Miss Addams said, had done more to make good American citizens of these foreigners than was accomplished by any efforts to Americanize them. It was not the aim of Hull House, she intimated, to make the people there trying to assist ashamed of their relations and compatriots, but rather to bring out the best there was in them by creating a feeling of equality and of family and race pride. An over-Americanized

has gone out. She has been succeeded by the man in cow-hide boots, and there is nothing celestial about him. He is of the earth, earthy.

A householder of my acquaintance recently directed a postal card to a city district yard which contained a grain or two of meanness that should have had a telling effect. The ashes had remained piled in his backyard in numerous barrels all winter; no overworked municipal laborer had come to remove them, and he wrote as follows:

"If the lordly ashmen have returned from their trip to Florida, will you kindly allow them to put on their kid gloves and take the debris off of my premises that has been so long awaiting their aristocratic attention. If they could be accompanied by an inspector of the Board of Health the city might learn something in the way of looking after the sanitary welfare of its citizens."

It is to be hoped that this card was not lost in transit by the lively boy who was told to carry it to the postoffice.

It is singular that people who pay little or no attention to a man during his lifetime will attend his funeral. They seem to congregate on mournful occasions to renew old acquaintances and to talk about by-gone times rather than to pay any particular respect to the dear departed. A solemn-looking individual was standing beside me, while a quartette was singing a soothing and appropriate hymn, yesterday, and I asked:

"What relation was the deceased to you, sir?"

"Well, I don't just remember," was the answer, "but I think his great-grandfather married my grand-aunt's step-mother."

This was being distantly related with a vengeance, and the man apparently enjoyed his ride to the cemetery.

I brought home some extra fine spring lamb chops the other day, and told the domestic to have them nicely broiled for dinner. When they came to the table, they wore the complexion of the ghost of Hamlet's father.

"What are these, Hannah?" I inquired, as I took one of them up dubiously on a fork.

"Billed bits of meat, sir," was the answer. "Shar, didn't you tell me to bile 'em?"

Then I was sorry that I didn't buy a scrap of mutton. It would have tasted quite as well as the chops I had paid a handful of money for.

Domestic manufactures exported in February, 1904, were greater value than in any preceding February, and formed also a larger per cent. of the total exports than in any preceding February. For the eight months ending with February the total manufactures also exceeded the total in the corresponding eight months of any earlier year. The first year 1900 was surpassed in the export of manufactures from the United States, but from present indications the fiscal year 1904 will show an even larger total of manufactures exported. The month of February shows a total of \$38,000,000 worth of manufactures exported, against \$34,000,000 in 1903, while for the eight months ending with February the total is \$288,000,000, against \$268,000,000 in the same months ending with February in 1903.

A herd of fancy Jerseys collected by the late Hon. Francis Pickens, of South Carolina, N. H., was dispersed by auction March 24. The herd, Hill Farm, Beverly, secured ten of the finest of this breed. This brings the number of animals owned by this farm up to 265.

Another fight is threatened between Buffalo milk dealers and the Western New York Milk Producers Association, the former objecting to the schedule of rates fixed for the coming season and threatening to go into new territory, where the association is not recognized, for milk.

It is said that there will shortly be an opening for agricultural machinery in Turkey. The Turkish government has decided to allocate an annual grant of \$13,000 for the encouragement of agriculture in the districts of Samson, Angora, Sivass and Konia. Half this sum will be devoted to the purchase of seeds, the remainder to agricultural machinery. Turkish agriculturists, it is said, are gradually awakening to the fact that modern methods of agriculture are essential to successful competition with foreign producers, so that, with preliminary aid from the Turkish government, the demand for up-to-date machinery should develop in the Ottoman empire.

"War to the knife on the brown-tail moth" is the motto of boys in Reading, Mass. The interest in the destruction of nests is at its height. The boys are spurred on by the rewards offered by the Woman's Club and Civic League of ten cents per hundred for nests. Tree Warden Manning states that "it is safe to say that nests can be found in ninety per cent. of the trees." There are also colonies of the gypsy moth in the standpoint of the town and east of the standpipes, which require immediate attention.

The jury in the Miller-Adams apple tree case returned a verdict for the defendant, thereby reversing the proceeding of February, 1903, when the plaintiff, E. F. Miller, was given a verdict of \$60.61. The jury on the first ballot stood 7 to 5 in favor of the plaintiff's side of the case. Successive ballots and prolonged discussion changed the standing of the jury. Mr. Miller, an orchardist of Williamsburg, Mass., had sued a Springfield nurseryman on account of some alleged Grafted apple trees which, it was claimed, had not turned out true to name.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

To the heirs-at-law, next of kin, creditors, and all other persons interested in the estate of MARY A. SMITH, late of Woburn, in said County, deceased, intestate.

WHEREAS, a petition has been presented to said Court to grant a letter of administration on the estate of said deceased to Thomas Burton Smith of Woburn, in the County of Middlesex, not giving a surety on his bond.

You are hereby cited to appear at a Probate Court, to be held at Cambridge, in said County of Middlesex, on the twelfth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any you have, why the same should not be granted.

And the petitioner is hereby directed to give public notice thereof, by publishing this citation once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court, and by mailing to each person interested in said estate a copy of this citation seven days, at least, before said Court.

Witness, CHARLES J. MCINTIRE, Esquire, First Judge of said Court, this twenty-fourth day of March, in the year one thousand nine hundred and four.

W. E. ROGERS, Asst. Register.

MAKER TO THE WEARER

THE SPHINX HAT

The Sphinx Hat

Made for and worn by those who appreciate value and style.

A Gentleman's Hat

ALL STYLES \$2.00

BOSTON STORE, 412 WASHINGTON ST.

E. A. BEAN, Manager.

To the Honorable the Judges of the Probate Court in and for the County of Middlesex.

RESPECTFULLY represents BALMA A. GOULD of Somerville, in said County, and INEZ B. GOULD, his wife, that they are of the age of twenty-one years or upwards, and are desirous of adopting lines Gould Hassett, of Somerville, a child of William Hassett, late of Weymouth, in the County of Dugby, Nova Scotia, and female, deceased, which said child was born in Weymouth aforesaid, on the twenty-sixth day of July, A. D. 1883; that both the father and mother of the said child died in said Weymouth, the former on the first of November, 1889, and the latter on the eighth of December, 1889, and that she has no legal guardian.

Wherefore they pray for leave to adopt said child, and that her name may be changed to that of Inez Gould.

Dated this sixteenth day of March, A. D. 1904.

BALMA A. GOULD.

INEZ B. GOULD.

I, the child above-named, being above the age of fourteen years, hereby consent to the adoption as above prayed for.

INEZ GOULD HASSETT.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

ON the foregoing petition it is ordered, that the petitioners notify all persons interested in said INEZ GOULD HASSETT, appearing as adopted child, to be held at Cambridge, in said County of Middlesex, on the twenty-sixth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any they have, why the same should not be granted, by serving them with a copy of said petition and this order seven days before said Court, or if they be not found within this Commonwealth, by publishing the same once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court.

Witness, CHARLES J. MCINTIRE, Esquire, First Judge of said Court, this twenty-fourth day of March, in the year one thousand nine hundred and four.

W. E. ROGERS, Asst. Register.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

To all persons interested in the estate of WILLIAM D. PHILLBRICK, late of Newton, in said County, deceased.

WHEREAS, Horace D. Chapin, the executor of the will of said deceased, has presented for allowance the estate of said deceased; administration upon the estate of said deceased; Court, to be held at Cambridge, in said County, on the twelfth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any you have, why the same should not be allowed.

And said executor is ordered to serve this citation by delivering a copy thereof to all persons interested in the estate fourteen days, at least, before said Court, or by publishing the same once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court.

Witness, CHARLES J. MCINTIRE, Esquire, First Judge of said Court, this twenty-second day of March, in the year one thousand nine hundred and four.

W. E. ROGERS, Asst. Register.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

To the heirs-at-law, next of kin and all other persons interested in the estate of IRENE S. THOMPSON, late of Somerville, in said County, deceased.

WHEREAS, a petition has been presented to said Court to grant a letter of administration on the estate of said deceased to Clara I. Doe of Arlington, in the County of Middlesex, without giving a surety on his bond.

You are hereby cited to appear at a Probate Court, to be held at Cambridge, in said County of Middlesex, on the twelfth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any you have, why the same should not be granted.

And the petitioner is hereby directed to give public notice thereof, by publishing this citation once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court, and by mailing to each person interested in said estate a copy of this citation seven days, at least, before said Court.

Witness, CHARLES J. MCINTIRE, Esquire, First Judge of said Court, this twenty-second day of March, in the year one thousand nine hundred and four.

W. E. ROGERS, Asst. Register.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

To the heirs-at-law, next of kin, creditors, and all other persons interested in the estate of CARL F. FIELD, late of Northfield, in the District of Washington and State of Vermont, deceased, or in the personal property hereinafter described, and to the Treasurer and Receiver-General of said Commonwealth.

WHEREAS, Dana D. Field, appointed administrator of the estate of said deceased, by the Probate Court for the District of Arlington in the State of Vermont, has presented to said Court his petition representing that as such administrator he is entitled to receive personal property situated in said Commonwealth, to wit: Deposits in: Somerville Co-operative Bank, Book No. 288, \$21.75; The Provident Institution for Savings, Boston, Book No. 280, \$37.60; Boston Five Cents Savings Bank, Book No. 68, \$2.50; and praying that he may be relicensed to receive or to sell by public or private sale on such terms and to such person or persons as he shall think fit or otherwise to dispose of, and to transfer and convey such estate.

You are hereby cited to appear at a Probate Court, to be held at Cambridge, in said County of Middlesex, on the twelfth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any you have, why the same should not be granted.

And said petitioner is ordered to serve this citation by publishing the same once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court, and by mailing to each person interested in said estate a copy of this citation seven days, at least, before said Court.

Witness, CHARLES J. MCINTIRE, Esquire, First Judge of said Court, this twenty-third day of March, in the year one thousand nine hundred and four.

W. E. ROGERS, Asst. Register.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

To the heirs-at-law, next of kin, creditors, and all other persons interested in the estate of MICHAEL BURKE, late of Newton, in said County, deceased, intestate.

WHEREAS, a petition has been presented to said Court to grant a letter of administration on the estate of said deceased to Thomas Burke of Newton, in said County, or to some other suitable person.

You are hereby cited to appear at a Probate Court, to be held at Cambridge, in said County of Middlesex, on the twelfth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any you have, why the same should not be granted.

And said petitioner is hereby directed to give public notice thereof, by publishing this citation once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court, and by mailing to each person interested in said estate a copy of this citation seven days, at least, before said Court.

Witness, CHARLES J. MCINTIRE, Esquire, First Judge of said Court, this twenty-first day of March, in the year one thousand nine hundred and four.

W. E. ROGERS, Asst. Register.

Commonwealth of Massachusetts.

MIDDLESEX, SS.

PROBATE COURT.

To all persons who are or may be interested in the estate hereinafter mentioned, held in trust under the will of HELEN M. WILLEY McDONALD, late of Malden, in the County of Middlesex, and to all persons whose issue now or hereafter may become so interested.

WHEREAS, FRANK J. MORANDI, trustee under said will, has presented to said Court his petition praying that he may be authorized to sell, either at public or private sale, certain real estate held by him as such trustee, situated in Malden, in the County of Middlesex, and particularly described in said petition, and for the reasons therein set forth.

You are hereby cited to appear at a Probate Court, to be held at Cambridge, in said County of Middlesex, on the twelfth day of April, A. D. 1904, at nine o'clock in the forenoon, to show cause, if any you have, why the same should not be granted.

And said petitioner is ordered to serve this citation by delivering a copy thereof to each person interested in the estate fourteen days, at least, before said Court, or by publishing the same once in each week, for three successive weeks, in the MASSACHUSETTS PLOUGHMAN, a newspaper published in Boston, the last publication to be on one day, at least, before said Court.

Witness, CHARLES J. MC

Our Homes.

The Workbox.

KNITTED INFANT'S SHIRT.

Two skeins of threefold Saxony yarn, one pair of steel needles No. 16, and ribbon for the neck. Cast on seventy-one stitches and knit one row plain.

3d row—One plain, over (*), 3 plain, knit 3 together, 3 plain, over, repeat from (*) to end of row.

4th row—Furled.

5th row—Like second.

6th row—Furled.

7th row—Like second.

8th row—Furled.

9th row—Plain knitting. Repeat from first 5 times, then narrow 1 stitch to give an even number of stitches on needle.

Knit 1 plain, purl 1 alternately, until the back is long enough—10 inches for the first size. Bind off. Repeat the directions for the front, carrying them out until the front is 6 inches long.

Divide the stitches on two needles for the opening at the neck. On the stitches on one needle, knit 2½ inches in length, then knit until that side is as long as the back, narrowing 1 stitch at the front opening each row. Bind off. Work the upper portion of second half of the front on the other needle, that remain on the other needle, narrowing these, also toward the front opening. The narrowing is done to make the neck lower in the front than the back. Join the shoulders and under-arm seams, leaving an opening large enough for the sleeve.

Cast on 70 stitches for the top of the sleeve, knit in pattern—1 plain, purl 1, alternately decreasing 1 stitch at the end of every fourth row, until there are 60 stitches on the needle. Knit without decreasing until sleeve is 5 inches long. Then 2 plain, purl 2 alternately for 2 inches, and bind off. Sew up seams of sleeves, and arrange them in armholes. Crochet row of holes round neck and finish with shell. Run ribbon in 1 neck.

EVA M. NILES.

A Children's Garden.

We want every school child in the State to grow a few plants this summer. We want every one of them to learn something of why and how plants grow, and the best and surest way to learn is to grow the plants and to watch them carefully. We want every one to become interested in everything that lives and grows. It does not matter how much just what kind of plants one grows, as it does that he grows something, and grows it the best that he knows how. We want the children to grow these plants for the love of it—that is, for the fun of it—and so we propose that they grow flowers; for when one grows pumpkins and potatoes, and such things, he is usually thinking of how much money he is going to make at the end of the season. Yet, we should like some rivalry in the matter in every school, and we therefore propose that a kind of a fair be held at the schoolhouse next September, soon after school begins, so that each child may show the flowers which he has grown. What a jolly time that will be!

Now, we must not try to grow too many things or to do too much. Therefore, we propose that you grow sweet peas and China asters. They are both easy to grow, and the seeds are cheap. Each one has many colors, and everybody likes them. Now let us tell you just how we would grow them.

1. The Peas—Never put them—or any other flowers—in the middle of the lawn, that is, not out in the center of the yard. They do not look well there, and the grass roots run under them and steal the food and moisture. I am sure that you would not like to see a picture hung up on a fence-post. It has no background and it looks out of place. The picture does not mean anything when hung in such a spot. In the same way, a flower bed does not mean anything when set out in the center of a lawn. We must have a background for it, if possible—a wall upon which to hang it. So we will put the flower bed just in front of some bushes or near the back fence, or alongside the smoke-house, or along the walk at the side of the house, or in the back yard. The flowers will not only look better in such places, but it will not matter so much if we make a failure of our flower bed; there are always risks to run, for the old hen may scratch up the seeds, the cow may break into the yard some summer night, or some bug may eat the plants up.

Perhaps some of the children may live so near to the schoolhouse that they can grow their plants upon the school grounds, and so have sweet peas and asters where there are usually docks and smartweeds. Grow them alongside the fence, or against the schoolhouse, if there is a place where the eaves will not drip on them.

2. How to Make the Bed—Spade the ground up deep. Take out all the roots of docks and thistles and other weeds. Shake the dirt all out of the sods and throw the grass away. You may need a little manure in the soil, especially if the land is either very hard or very loose and sandy. But the manure must be very fine and well mixed into the soil. It is easy, however, to make sweet pea soil so rich that the plants will run to vine and not bloom well.

Make the bed long and narrow, but not narrower than three feet. If it is narrower than this the grass roots will be apt to run under it and suck up the moisture. If the bed can be got at on both sides, it may be as wide as five feet.

3. How to Water the Plants—I wonder if you have a watering-pot? If you have, put it where you cannot find it, for we are going to water this garden with a rake! We want you to learn, in this little garden, the first great lesson in farming—how to save the water in the soil. If you learn that much this summer you will know more than many old farmers do. You know that the soil is moist in the spring when you plant the seeds. Where does this moisture go to? It dries up—goes off into the air. If we could cover up the soil with something we should prevent the moisture from drying up. Let us cover it with a layer of loose, dry earth! We will make this covering by raking the bed every few days—once every week, anyway, and often than that if the top of the soil becomes hard and crusty, as it does after a rain. Instead of pouring water on the bed, therefore, we will keep the moisture in the bed.

If, however, the soil becomes so dry in spite of you that the plants do not thrive, then water the bed. Do not sprinkle it, but water it. Wet it clear through at even-

ing. Then in the morning, when the surface begins to get dry, begin the raking again to keep the water from getting away. Sprinkling the plants every day or two is one of the surest ways to spoil them.

4. When and How to Sow.—The sweet peas should be put in just as soon as the ground can be dug, even before frosts are passed. Yet good results can be had if the seeds are put in as late as the tenth of May. In the sweet-pea garden at Cornell, last year, we sowed the seeds on the twentieth of April. This was about right. The year before we sowed them on the thirtieth. If before we sowed them they are likely to bloom better, but they may be gone before the middle of September. The blooming can be much prolonged if the flowers are out as soon as they begin to fade.

Plant sweet peas deep—two or three or sometimes even four inches. When the plants are a few inches high, pull out a part of them so that they will not stand nearer together than six inches in the row. It is a good plan to sow sweet peas in double rows—that is, put two rows only five or six inches apart—and stick the brush or place the chicken-wire support between them.

China asters may be sown from the middle of May to the first of June. In one large test at Cornell we sowed them June 4, and had good success, but this is rather later than we would advise. The China asters are autumn flowers, and they should be in their prime in September and early October.

Sow the aster seed shallow—no more than a half-inch deep. The tall kinds of asters should have at least a foot between the plants in the row, and the dwarf kinds six to eight inches.

Sometimes China asters have rusty or yellow spots on the undersides of their leaves. This is a fungous disease. If it appears have your father make some ammoniacal carbonate of copper solution and then spray them with it; or bordeaux mixture will do just as well or better, only that it discolors the leaves and flowers.

5. What Varieties to Choose.—In the first place, do not plant too much. A garden which looks very small when the busy-willows come out and the frogs begin to peep is pretty big in the hot days of July. A garden four feet wide and twenty feet long, half sweet peas and half asters, is about as big as most boys and girls will take care of.

In the next place, do not get too many varieties. Four or five kinds each of peas and asters will be enough. Buy the named varieties—that is, those of known colors—not the mixed packets. If you are very fond of reds, then choose the reddest kinds; but it is well to put in at least three colors. The varieties which please you may not please me or your neighbor, so that I cannot advise you what to get, but I will give some lists which may help you.

Amongst all the sweet peas grown at Cornell last year, the following seemed to be the best on our grounds:

Dark purple—Waverly, Duke of Clarence. Striped purple—Gray Friar, Juanita, Senator.

Lavender—Countess of Radnor, Dorothy Tennant, Lottie Eckford.

White—The Bride, Emily Henderson, Queen of England, Alba Magnifica.

Primrose—Mrs. Eckford.

White flushed with pink—Blushing Beauty, Katherine Tracy, Eliza Eckford.

Striped or flaked pink—Ramona, Mrs. Joseph Chamberlain.

Orange-pink—Lady Penzance, Meteor.

Rose-pink—Her Majesty, Splendor, Apple Blossom, Boreatton.

Rose-pink shaded with orange—Firefly, Princess Victoria.

Of China asters, the Comet type—in various colors—will probably give the most satisfaction. They are mostly large-growing kinds. Other excellent kinds are the Perfection and Peony-flowered. Some of the best are the following: Chrysanthemum flowers—Washington, Victoria, and, for early, Queen of the Market. Odd varieties are Crown, German Quilled, Victoria Needle and Lilly-pot. Very dwarf kinds are Dwarf Bonquet or Dwarf German and Shakspeare—New York Education.

Health Fads on the Brain.

To get all sorts of health fads on the brain is a disease in itself. It is a very prevalent disease, too. With a few foolish quirks to observe, a whole lot of hygienic rules to adjust to and a schedule of superstitious sanitary notions diligently followed by day and dreamed of by night, is a malady which begins as a mental derangement and ends in a complete physical fizzle. No room left for a spontaneous life, no place for free joyous liberty. Not a minute's peace for free, untroubled, untrammelled living. Every minute, every minute, every minute, is a struggle, a struggle, a struggle, without number. Forebodings, misgivings, hovering vaguely about the mind, like flocks of carrion crows. Such a life is not worth living. One might as well times better go back to the reckless regime of a rough rider.—Medical Talk.

Dressing for Sliced Cabbage.

The following incident happened several years ago, early in our married life: We had invited perhaps a dozen members of my husband's family to dine with us on Sunday. Some of them were aunts and cousins we had never entertained before, and all the ladies had enviable reputations as cooks. So I had put much thought into my bill of fare, and on the Saturday previous I made all possible preparations. I remembered that roast capon fattened on the farm was the main dish, and cream pie was to appear as a part of the dessert. I chose it partly because I could make the filling on Saturday, and Sunday's work would only be to place it in the pastry shell and slip into the oven while the meringue was browning. I had never made cream pie, but I had eaten it often on the home table and I had mother's recipe. So I had no fears but that I could concoct a superior article myself. The butter, sugar, and milk were all cooked together, a creamy custard resulting, which was most gratifying; then the proper number of beaten eggs was added, and the whole set away to cool, to be flavored later. I did not look at the mixture again till rather late the next morning, and then I was appalled to find it creamy indeed. It was "runny," delicious to taste, but not nearly stiff enough for pies. I knew that I mustn't cook it further or the eggs would curdle; so I crossed cream pie off the list and wrote in cherry pie and had them made and baking on short order, but what should I do with that cream?

A daring idea came to me. I had made no dressing for my cabbage, which was sliced thin, and was to be served with the meat course in true country fashion. I took about a pint of the "pie" timber. I added vinegar, some prepared mustard, red pepper, celery flavoring and salt, and there came forth a salad dressing that was good enough to eat, and they did all eat of it and were satisfied, apparently. But, best of all, the maiden aunt, who is snicky to the last degree and sat at my side

at the table, whispered in my ear to my great delight, though I concealed it quite. "Tell me how you make your cabbage dressing, it is delicious!" And I chuckled to myself at the thought of how she would look if I should tell her: "First you must make some thin cream-pie filling!"

JULIA COOK GREEN.

Rules for Longevity.

An English medical journal recently made a collection of recipes for the preservation of life. Of these it says: "They are curiously diverse in details, though in essentials they are alike." Abraham Lincoln's maxims were: "Do not worry; think three meals a day; say your prayers; trust in your wife; be courteous to your enemies; and your digestion good; steer clear of biliousness; exercise; go slow and easy; maybe there are other things that your special case requires to make you happy, but my friend, these, I reckon, will give you a good life."

Sir Benjamin Ward Richardson said: "The would-be centenarian should never smoke or drink—especially the latter, and he should eat very little meat. He should keep early hours and work as little as possible by artificial light. Moreover, he should not make haste to be rich, and he should avoid worry and consuming ambition."

Moltke, when asked in his ninetieth year how he had maintained his health and activity, answered: "By great moderation in all things and by regular outdoor exercise."

Crispi said that "regularity and abstinence are the secrets of long life." Sidney Cooper also believed in regularity. Legouve attributed his long life to regular exercise.

Neal Dow of Maine laid stress on the careful avoidance of fretting, of disturbance of the digestive organs and of exposure to sudden or protracted cold with insufficient protection against its influence.

Cornaro's rule was extreme temperance in eating and moderation in drinking; he took anything that agreed with him and nothing that did not.

Chervin was sparing in food, and, like Cornaro, cultivated cheerfulness.

The late Sir Isaac Holden believed that he owed his great length of years to his habit of living mainly on fruit and avoiding all starchy foods, including bread.

Jowett told Dr. G. N. Pope, the well-known Tamil scholar, that "to have a great work in progress is the way to live long."

According to Sir James Sawyer, the secret of longevity consists in "paying attention to a number of small details."

For Untrained Nurses.

In these days of trained nurses less attention is paid to the training of the daughters of the household in the care of the sick than in old-fashioned times, when trained nurses were unknown and hired nurses never resorted to except in extreme cases. Yet every woman ought to have at least some knowledge of sick-room lore to enable her to meet emergencies when a trained nurse cannot be found, and those who understand little about nursing the sick should attend lectures on the subject whenever possible.

Cleanliness and method are of course, the first essentials of nursing. The room must be systematically cared for, yet in such a manner as not to disturb the patient. Complete ventilation is a necessity. In winter an open fire should, if possible, be kept burning in the sick room, as this is the most wholesome way of heating a room and also ventilating it thoroughly. The sick room should be kept at an even temperature. Sixty-five or seventy degrees is the correct one in most cases; but the physician should be consulted in this matter, as in some forms of disease a higher and in others a lower temperature is required.

Towels and bed linen to be used by the sick should in winter be warmed and aired thoroughly after they are taken out of the linen closet.

In cases of infectious disease it is important to have a disinfecting fluid to use in cleaning china, clothing, bedding and other articles for the sick room. All articles to be laundered should be wrung out in this fluid and then hung out of the window before being carried through the house. Nothing used in the room should be hung out of doors on a clothesline unless it has first been disinfected. If everything is disinfected before it is taken from the room the contagion can be kept from the rest of the house. A sheet wrung out in a weak solution of carbolic acid or some other disinfectant and hung just outside the door of the room will do much to prevent the escape of infected dust. A cap that completely covers the hair should be worn by the woman who cares for a person with a contagious disease, and her gowns should be of light material and simply made, so that they can be easily disinfected and put through the washbasin once or twice a week.—New York Tribune.

Harmony of Mind and Body.

Dr. W. G. Anderson declares: "A one-sided education is not perfect, and that scheme for 'unfolding a human being' that leaves out the physical is one-sided. Instead of strengthening the foundation of education, or developing the material upon which we are to build, we vary, modify, change, and elaborate the superstructure, and then wonder why we make so little progress. I do not hesitate to place myself on record as prophesying that the living of the complete life that it is possible to live will be realized when the foundation of education is strengthened; when the belief prevails that the groundwork is just as important, though neither so beautiful nor impressive as the building itself."

Select food rich in material to build up the body you live in. Brain, bone and muscle are not made out of layer cake and floating island.

Dress in warm, light clothing, so that the circulation may be even over the whole body. If you wish sound lungs, dress so that you can breathe deeply, and if you wish a clear head, keep your feet warm and dry.

Eat moderately, sleep moderately, and hurry up moderately. Be moderate in everything.

Don't fret and worry about your own affairs or your neighbors'. A fretful, irritable temper can break down the constitution sooner than hard work.

Eat, sleep and rest at regular hours. The millions of brain cells and delicate nerves are adjusted to a certain rhythm, which results in harmonious living and thinking. Destroy this rhythm by irregular hours and the whole nervous system is thrown into a jangle, the brain confused, the digestion disturbed, and presently we hear of a breakdown.

Every man who would be well, needs every day to take plenty of healthy exercise which will send the blood and nerve currents thrilling and tingling to the very

tips of the toes and fingers, giving fresh life to the whole body.

Genial, unselfish cheerfulness, which warms a man in his innermost life, helps him to be strong and well, not only in body, but in mind.

To bend the shoulders and hollow the chest when walking, not only injures the lungs, but gives one a look of weariness and depression. To bend forward, with the legs lagging behind, is not only an ungraceful, but a very tiresome way of walking, as all the strain comes on the back.

Hold the chest and head up with strength and courage, and the chin down with firmness; put the foot down lightly and evenly; bend the little spring in the instep which makes the step easy and flexible, and then walk from the hips, and not from the knees. Walking is a delightful and fascinating exercise when practiced as an accomplishment.

Remember the old saying: "A healthful soul in a healthful body." Preserve the harmony of mind and body.—Mechanic Art Magazine.

Domestic Hints.

CREAM OF TOMATO SOUP.

Peel two young carrots, one young turnip, one or two stalks of celery and a leek or a small onion. Add a few sprays of parsley and half a bunch of chives cut up in small bits, and a clove of garlic if desired. Boil these flavorings and vegetables for an hour in a pint and a half of water, and then add a quart can of tomatoes, cook slowly for two hours longer and then strain through a colander. Melt a large tablespoonful of butter in a saucepan, stir in until quite brown and add two tablespoonfuls of flour. Finally stir in a cup of the soup and then turn this thickened mixture into the remainder of the soup. Cook the mixture for fifteen minutes more and season it with a tablespoonful of sugar, one tablespoonful of salt and a scant teaspoonful of pepper. Fry brown squares of bread, an inch in length, and place them on the soup tureen, pouring the soup over them.

CHICKENS, A LA BELLEVUE.

Trust two chickens or fowls for broiling, and braize them in white broth in the usual manner; when done set them to cool, and mask them completely with some reduced Bechamel sauce, in which should be mixed a fourth part of aspic jelly. Previously to serving the chickens the Bechamel thus prepared must be stirred in a steppan imbedded in rough ice until it just begins to get firm; it should then be immediately poured over the chickens; these should be decorated upon the breast with black truffles or red tongue, and placed upon a dish with a trimmed and glazed tongue in the center. Ornament them by placing a roll of chopped aspic jelly around the base, then outside this some bold croquets of aspic jelly, and serve.

CREAM OF GREEN PEAS.

Open a can of green peas and reserve a fourth of a cupful. To the remainder add three cupfuls of chicken stock, and simmer for fifteen minutes. Melt a fourth of a cupful of butter, add an equal amount of flour and when well blended add the first mixture to it gradually, and boil up well; then rub through a sieve. Reheat, add the reserved peas and hot milk to make the desired consistency, about three-quarters of a pint. Taste with salt and pepper; let it just come to a boil, and serve with crisp croutons. A cupful of whipped cream may be stirred into the soup just before serving, and it adds greatly to its delicateness, although it is not essential. Another way is to serve in bouillon cups with a spoonful of whipped cream floating on the surface.—What to Eat.

STUFFED TOMATOES.

Cut the tops off large, firm tomatoes and with a spoon scoop out the contents, taking care not to break through the sides of the tomato. Take the part you have removed, chop it fine with an equal part of bread crumbs, season with a teaspoonful of onion juice, salt and pepper to taste and return the mixture to the tomatoes. Stew bread crumbs over the top, put on two or three bits of butter, cover and bake for half an hour. Uncover and broil.

BAVARIAN COFFEE CREAM.

Dissolve half an ounce of gelatine in three or four tablespoonfuls of hot water, then add to it four ounces of powdered sugar, and put through a sieve. Whip a pint of cream and when firm put it on ice for fifteen minutes. When the gelatine begins to stiffen add the whipped cream, whipping the mixture as you go along. Add a gill of strong black coffee, put into a mould and set in the ice cave for at least an hour before serving.

OYSTER COCKTAILS.

Of course every one knows nowadays how to make oyster cocktails, but for purposes of comparison it is sometimes desirable to have numerous recipes. For this particular one, then, put into a glass the juice of a lemon, plenty of salt, a few drops of tabasco and a little Worcestershire. Strain this mixture through a fine sieve, and introduce a drop or two of onion juice. After the dressing is carefully blended, put in the oysters, pretty well drained from their own liquor; allow them to stand immersed in the dressing for at least fifteen minutes before serving.

Hints to Housekeepers.

Considerable judgment is needed in the furnishing of a smoking-room to make its decoration, while pleasing to the eye, subservient to the main object, and to render it thoroughly cozy, and at the same time free from all superfluous furnishings. Paneling, carved within a few feet of the ceiling, and finished with a deep frieze in some warm, rich color, is the best wall treatment. Sporting cups and trophies can be arranged along the moulded top of this paneling, and a few good engravings hung along the woodwork. The floor should be of polished boards or parquet, and a carpet is undesirable. A few skins and warm-toned rugs that can be taken up and shaken every morning may be used. The windows may be paneled with leaded glass, with, perhaps, a touch of color, and the curtains, while warm and substantial looking, should by no means be of a fabric to which memories of the fragrant weed will cling. Linen, with borders of stencil or applique, may be used, and should reach no further than the window-sill. Serge, with borders of contrasting color, might also be used. There should be no portieres, but a screen of Spanish leather may be placed in front of the door as a protection from draughts. An inglenook is indispensable to the ideal smoking-room, and the chairs should be deep seated and wide backed. There should be a large and useful table, capable of holding ash trays, books, reading lamp, etc., a book wagon beside the easiest chair, a bureau bookcase, with a let-down flap for writing, and book shelves in convenient corners, with tops capable of holding masculine knick-knacks.

Somebody has discovered (a woman, of course) that "homemade" Japanese dwarf trees are just as pretty and far less expensive than those grown by a professional. It is merely a matter of time and patience. All the little branches and all the little roots have to be systematically pruned for four or five years. At the end of that period the simple little evergreen for which one paid a dollar, perhaps, has developed into a first-class "dwarf tree," with all the earmarks of the genuine article, for which anywhere from \$25 to \$75 is usually asked—and paid.

Mix fresh Philadelphia cream cheese with cayenne pepper and paprika. Mould in a ball and send to the table to be eaten with apples or pears or dessert. It is good with salines or other crackers with the salad.

To restore the color of cashmere that has been splashed with mud, sponge the discolored parts with water with a small piece of soda dissolved in it.

The use of cooking thermometers, which until recently was almost thoroughly confined to hotels and restaurants, is increasing in private kitchens. Most modern housekeepers count them now as necessities, and they are to be found in any house-furnishing shop. They register a scale of temperature which somewhat exceeds 400°. In addition they indicate at what temperature different meats should be cooked. Mutton needs the lowest temperature, 200°; beef requires 210°; pork and veal each 220°. Bread and pastry need 400°, but biscuits must have 450°. Fats

and cakes wait at 350°, while sponge cake needs only 275°. The thermometer, which costs from 25 to 50, can be used in boiling water or fat as well as in the oven.—Cooking Club.

A bedroom set for a young girl in white enamel wood with pink roses was admired. The bed was of wood, with a rather high headboard of a graceful shape, and the roses were disposed over it carefully. The dressing of the bed was original. There was a roll bolster covered with creosote pink roses on a cream ground, and the spread was of the same material. This was cut to exactly fit the top of the mattress, and had a full ruffle, which did not, however, hang over the sides, but were tucked in along the sides. The effect was of a full puff. All the cushions, etc., of the room were in this creosote, and the curtains were barred ditto, with a quaint, old-fashioned valance of creosote.

Our flowers will last much longer if a little carbonate of soda be added to the water in which they are stood.

A growing plant should be kept in the room with a piano, says a piano-tuner. As long as the plant thrives the piano will. The reason that a piano is injured by a dry, overheated room is that all the moisture is taken out of the sounding board. The board is forced into the case so tightly that it bulges up in the center, and though the wood is supposed to be as dry as possible when the board is done, it contains some moisture, and gathers more on damp days. When this moisture is dried out the board flattens and finally cracks.

Fashion Notes.

Millinery openings in several large shops occupied the attention of shoppers this week. The wealthy go to these openings to buy, and other people go to admire and to gather ideas. There is, of course, a certain distinction about the first models, many of which are imported, and the others copied from importations. Although the Easter hat has been relegated to the antiquities, women of taste no longer appearing at church in gala dress, the close of Lent usually sees the last of cold weather and spring hats begin to show themselves.

The displays this week showed some handsome colored hats. Pale blue, rose color and pink, mauve, bright red, blue, green and lemon yellow are the prevailing shades. There are many of the yellow tones, and one of the large shops was entirely sold out of hats of this color two days after they were placed on sale. So we may expect to see much yellow. It is a cheerful hue, but not universally becoming.

Everywhere lace is used, a great deal of it real. An exquisite round hat had a crown composed of rich pink roses crushed together with out any lace, and a rolled satin brim; of pink satin stars. The entire hat was swathed in a veil of black Chantilly, the edges of which dropped far over the brim.

Another picture hat was of transparent Tuscan straw with black lace inset in the crown and edging the brim. Beneath the lace crown were tiny pink roses and black ostrich plume trimmed one side of the hat.

Not many black hats are shown. Of course they will be worn. There is no danger of such a useful article of dress as the black hat ever going out of fashion. Brown hats abound everywhere. A pretty fashion which will undoubtedly be popular is that of veils that exactly match the hat, both in color and texture. For example, a brown street hat trimmed in small roses which shadeth from burnt orange to brown and brown dotted net, has an accompanying veil of the net, lace edged. The veil is draped around the brim of the hat, and falls quite loosely like a veil all around. This is a very old style revived. Our grandmothers used to wear black Chantilly draperies around their scoop bonnets in the same way.

One sees few sprays of flowers. Everything has garlands, usually of very small roses. A large hat of pale blue has three rows of shaded yellow roses encircling the crown like a band, this covered with a white lace veil, which is permitted to hang low in the back. There is no other trimming. Another blue hat has the entire crown composed of pink roses, with two white Mercury wings on either side.

A charming hat for dress occasions is a large Leghorn, a straw that never loses popularity. The shape is Louis Seize, which means that it has a wide, floppy brim, apparently unwired, and the back is turned up sharply. A fringe of tiny pink rosettes with long, thin green stems is arranged across the front of the brim, and a double garland of pink roses, intertwined with exquisite pink ribbon, crosses the top of the hat and extends over the back.

In the majority of cases a transparent black hat is more becoming than one of solid straw or fabric. Black maline, not in the thick twists and ropes so often seen, but in shirings and soft folds, is one of the best materials for black hats. Lace is always good; chiffon not quite as suitable. A distinguished hat of Chantilly is in a wide tricorn shape. It has no trimming, save a large pom-pom of white ostrich feathers, with a black agrette.

There seems to be no end to the lovely new silks. Under a dozen or more high-sounding trade names, one finds old favorites greatly improved and ingeniously varied. The Messallines appear in shaded tones, and are called Messalline ombre and Messalline antique. Pin checks in shaded effects are charming. Clair de lune silks show self-colored satin dots and crescents, composed of many small dots. Poir Ninette is a very sheer silk voile, with satin dots, the whole surface covered with a dainty printed design. The ombre silks look beautiful in the shops, but they are so striking that one would surely tire of gowns made of them. One would look like a gorgeous rainbow in an evening gown of pink silk, the gown shading from red around the hem to the palest shade of pink near the top of the bodice, but such a costume could not be worn more than two or three times in a year. If one is rich enough, this counts for nothing, of course. The shaded silks are especially effective when accented or sun-plaited.

A handsome new material has a foundation of white or cream net, on which is applied a pattern of flowers in figured silk. Blue, yellow and mauve tones are seen. Printed net promises to be great favorites. A fine net printed with pink flowers is covered with tiny crystal dots, giving a dewy impression. A great deal of thin material with these nets. In fact, gold and silver are much used in trimmings. On the counters where dress trimmings are sold are found plisse ruffles by the yard, some of them founce width, each ruffle being edged with three, four, five or six inches wide. The skirt is plaited, and has two deep founces trimmed with lace and gold braid. High grade of white satin.

Such a pretty dinner gown for a young woman has a foundation of white dotted chiffon. The skirt is plaited around the top, and is crossed by two wide rows of lace banding. On this is sewn a Greek fret design of pale blue baby ribbon. One such row crosses the bodice in the middle. The bodice is high-necked, and has a little yoke banded with rows of the ribbon. The elbow sleeves are three eighths wide with tiny bows of blue ribbon. The high grade is blue satin.

A discouraging feature of the spring silks is the prevalence of circular tufts and circular bands of trimming. Only tall women can afford these effects, and even they should beware of taking too much away from the length of limb essential to grace. Another destroyer of height is the separate coat, which promises to continue through the coming season in pongee, silk and lace. Only one thing does favor the short woman and that is the prevalence of stripes in dress materials.—New York Evening Post.

The World Beautiful.

Lillian Whiting, in Boston Budget.

"The power of our own will to determine certain facts is, itself, one of the facts of life."

"And he will tell whatever of the holy realm he had the power to treasure in his mind."

The "Vita Nuova" does not exist alone in the sublime imagination of Dante, but it is a possible realization of the individual in outward experience. The "New Life" in some form or another it beckons to every

one who is sensitive to "aspirations toward the more ideal life and its possibility flashes before the mind in all the glory and the freshness of a dream." It flashes before him, but if he makes no effort to translate it into immediate realizations it only fades away into the light of common day and is seen no more.

There can hardly be a higher ideal of

The Horse.

The Useful Belgians.

Experience has proved that the drafters begotten by the good Belgian stallion from native mares are among the very best sellers ever placed on the market where such geldings are disposed of in large numbers and at high prices. In Chicago, for instance, it is well known that from one county in the central part of the State of Illinois, where high-class Belgian stallions have been kept for years, a very large number of their grades have been sold at prices ranging from \$250 to \$350. One shipper who annually makes a very high average price for his consignments makes a specialty of buying Belgian grades, and when it is known that he is to offer a load in the auctions, a large number of buyers is always on hand eager to bid for his horses.

The good Belgian stallion—it must always be remembered that this qualification must be insisted on—is admirably adapted to cross on American mares. These horses have immense width, short legs, very heavy bone, great substance, are very masculine in appearance, and their colors are of the best. They and their get are extraordinarily easy keepers, requiring comparatively little feed in proportion to scale, and they mature very early, growing to large weights.

The illustration presented herewith shows a selection of the Belgian stallions now offered for sale by Dunham F. Fletcher & Coleman, Wayne, Ill. In the group and first in the row is the grand big stallion Escape, winner of the first prize at the International, Chicago, last December, as the best Belgian stallion five years old or over. He is a rich bay, weighs over 2400 pounds, and withal is a phenomenal mover. Ven-gueur, Colosse de Winter and Senateur, all shown in the group, as well as Escape, were all winners on Belgium of what are known as "Conservation Prizes," and those won by the four named stallions were of \$1200 each. To obtain this liberal sum each stallion had to remain in Belgium and breed a stated number of mares last season, which, though they were bought in early summer, delayed their importation until very late in the year. The first and second prize-winners in the three-year-old class at the International, horses weighing over a ton each, are also on sale, and splendidly built, compact two-year-olds, scaling close to the ton, are also on sale. The three four-year-olds named after Escape all weigh over 2200 pounds. One and all, they are grand movers, the action displayed being actually a revelation among such heavy horses. Stallions of this sort should prove very valuable to the farmers in the East.

Experience with Farm Horses.

A farm horse for general purposes should not be too heavy. In my experience the Hambletonian, a desirable type of medium size all-around purpose horse is preferable to a heavier strain. Horses are often spoiled by bad handling and more by over-feeding than by under-feeding. The horse is one of the most sensitive of animals. The handler of the horse should use great patience and kindness; I prefer a lump of sugar to a whip. Different men want different types of horses. In general, a farmer needs a horse able and willing to do any work needed on the farm or off of it. But it is difficult to find him. A medium size, from 1050 to 1200 pounds, does the best.

Formerly we did not take as good care of horses as we now do. We fed too much hay and not enough grain. For the best service a horse needs as plentiful a ration of strengthening food as a hard-working man does. It is demoralizing to work and feed a horse until he is jaded down, with energy and life all fagged out. Farmers can and should raise a colt every year or two. They should learn to handle him almost as soon as he is born. No farm animal is so subject to disease as a horse. It is costly to buy horses, and it makes one feel good to have one to sell occasionally.

A colt is born to have plenty of exercise like all other animals, and fresh air. Never confine him in a stall. Feeding is important. If you begin early enough you cannot feed him too much oats and some bran. Never turn him out to pasture far from home. You need to look at and handle him every day.—F. P. Newkirk, Hampshire County, Mass.

Notes from Washington, D. C.

Representative Trimble's bill to prevent the adulteration of blue grass, orchard grass and clover seed has been reported by the committee on agriculture and is now before the House. The bill in general terms makes it a misdemeanor to adulterate or misbrand these seeds. The original bill declared the definition of adulteration to mean five per cent, but the committee amendment reduces this figure to two per cent. The section of the bill relating to clover, for instance, reads:

"When the seed of red clover (*Trifolium pratense*), also known as clover, common red clover, June clover, small red clover and medium red clover; of mammoth red clover, also known as sapling clover and pea vine clover; or of alfalfa, also known as lucern, contains two per cent, or more, by weight, of the seed of yellow trefoil or of sweet clover, the same shall be deemed to be mixed or adulterated."

The bill is generally recognized as a good measure and one which should receive the favorable attention of Congress.

Representative Hopkins of Kentucky has introduced a bill to allow the growers of leaf tobacco to stem, twist and sell their own products without the payment of the tax now required of manufacturers of the same under existing laws.

"Good judges believe that in the entire country one-third of the cows kept for their milk do not pay for their cost of keeping, and nearly one-third more fail to yield annual profit." This rather startling statement, said Dr. E. W. Allen of the Department of Agriculture, was made in the Year Book of this department by one who is competent to speak upon the subject.

The question arises what the farmer with a herd of dairy cows is to do. First of all, he should find out not only what his herd collectively, but what each cow is doing; he should begin a record of both the quantity and quality of milk produced by each cow. This will enable him after a time to systematically weed out his herd, retaining only the best. He should then gradually raise the standard of his herd by breeding or by the introduction of new stock. The average cost of keeping a cow a year has been variously estimated by experiment stations in different localities at from \$35 to \$45. The means of keeping the record of the income, enabling the weeding-out process, are now available to every dairyman.

The Babcock test, which is a simple means of determining the richness of the milk in fat, and the scales for determining the yield of milk enable any farmer to ascertain the value of milk and butter production of each

cow in his herd, and whether she is a source of profit or loss.

The mere milk production may be misleading if the test is not made. The fat test may be made at frequent intervals, say once a week. Since morning milking differs somewhat from that made at night, it is more reliable to take samples of both for testing.

It is needless to say that proper care and feeding count for a great deal in milk production, and may do much to improve the milking qualities of otherwise poor cows. Before a cow is rejected the farmer should be sure that the fault of light production lies in the cow and not in himself.

Consul Gowdy at Paris transmits an interesting report showing that apparently the Pasteur Institute has discovered a means of destroying rats and mice with great certainty. It seems that in certain departments of France rats have committed such depredations on the vines, cereals, alfalfa, etc., that the losses have amounted to little less than a plague. The remedy consists in distributing a sort of diphtheria germ in the rat colonies by means of edibles soaked in a solution containing these particular bacilli. The report says in part:

"The ground selected by Dr. Roux for his battle with the rats covered a space of 2965 acres. Here various kinds of cereals, vines and trees abound; and here, also, the sowing of various kinds of grain last autumn had been completely destroyed by these rodents. The ground throughout the district was literally perforated with holes which seemed to be connected underground by little passages.

"To determine the effect of this poisoned paste on the destructive little animals Dr. Roux had the fields that had been microbe treated plowed up in order to see the condition of the rodents after they had eaten the paste and to fix approximately the number of rats and mice that had succumbed to the poison. The result obtained surpassed all expectations on the part of the simple farmer. Rats and mice were dead in almost alarming quantities and became quite as much of a pest when dead and putrefying as when they had been alive, but happily in another sense of the word. Dr. Roux estimates that he destroyed no less than ninety-five per cent. of the rodents by these experiments. As many as fifteen to twenty rats were sometimes found in one hole."

The bitter fight which has been waged in the public lands committee of Congress during the past two years has been transferred to the floor of the Senate, and the facts have been presented to view regarding the tremendous land frauds in the West, which have been practiced under the present land laws and the absorption of lands into enormous single holdings, in some instances aggregating a million acres, where they should have been divided up into thousands of small individual farms. The following statement presented by Senator Gibson of Montana shows the great increase during the past few years in the absorption of public lands into private ownership. In 1898, 8,453,896.92 acres; in 1899, 9,182,415.16 acres; in 1900, 13,453,897.95 acres; in 1901, 15,562,706.30 acres; in 1902, 19,488,538.30 acres; in 1903, 22,824,590.00. Total, 88,963,828.64 acres. The significant feature of this increase in great land taking is the well-known and oft-stated fact that practically all the good agricultural lands of the Government, suitable for homestead entry, have been for several years taken up. The statement then that these lands, through dummy entries, are largely passing into the hands of big grazing and speculative outfits does not seem to be an unreasonable one.

If the henhouse is on low ground it is apt to be damp. During freezing weather the dampness makes little difference, but thawing ground and melting snow may bring layers to a round turn with irritating coughs, if not with the roup. Set the house up a foot or so, drain the surrounding ground, be sure that the floor, whether of wood or of dirt, is several inches above the outside level. Stop leaks and knotholes and make the house dry and tight.

A commodious dust bin where the hens can always find plenty of deep, fine dirt and ashes, is worth more than insect powder. Locate the bin where the sun will shine through a clean window, at least a part of the day. In raw or cold spring weather hens will spend hours lying half covered with the fine penetrating dirt, to the utter rout of the lice. The hen needs her dusting as much, if not more, than man needs his regular bath.

Asparagus is not an easy thing to get established in good shape, the seeds catalogue to the contrary notwithstanding, but it pays for all the trouble taken. It is one of the very earliest of the spring crops, and

it is one of the most wholesome. In cases of kidney trouble its medicinal properties are well known. It needs rich soil. It also needs salt, and it likes kalmits very much. Test this by sprinkling some kalmits on young asparagus. The stocks will show no effect, while any weeds which the German salt may strike will be burned as though by fire.

It is always a pleasure to plant ten or a dozen hills of peanuts, even if the trouble entailed in their raising is far more than represented by the purchase of an equivalent in five-cent bags already roasted. The nuts will mature almost anywhere in the United States, if planted early. The nuts will mature in latitudes considerably farther north than Washington, if the planting is early.

GUY E. MITCHELL.

Butter Markets Weak.

Storage butter continues to clog the market and weaken prices all along the line. Its holders can neither sell their own stock nor allow shippers of fresh butter to sell theirs at full prices. The supply of fresh made is likely to increase, in fact, the increase has already begun, and the situation looks bad all around. Dealers have had to cut prices a little the past week to make sales and clear the way for new arrivals. Most sales of top-grade creamery are at 23 cents, with some fancy lots a fraction higher. Sale of lower grades is hurt by the abundance of pure creamery. Box and print butters are a fraction lower and in ample supply. Low grades in all lines are selling with difficulty.

Chapin & Adams: "It is the same old trouble; the big surplus of cold-storage goods, which holders are anxious to sell at almost any price. Fresh creamery is arriving freely and dealers have to close it out somehow and help clear the markets. The situation has become worse, if anything, during the week."

New York is estimated to have on hand at the present time 61,000 packages in public and private freezers; this includes all kinds and descriptions. Boston had on Saturday last 71,700 packages. Chicago is estimated to have about seventy-five thousand packages in the freezers, and the stock in Philadelphia is figured at twenty thousand to twenty-five thousand packages; a good deal of this butter is low-grade stock. No further change in New York State dairy.

The cheese market is a fraction lower in Boston, but the New York and Western markets hold unchanged. The export movement has been quite heavy. The season is growing late, and while the tone is fairly steady, holders are inclined to encourage the demand. At New York sufficient business is doing in fancy full-made cream at 12 cents to fully warrant the quotation, and in a small way some exceptional lots slightly exceeded that, but average fine full cream, suitable for most dealers' use for best grade, is obtainable at a shade under 12 cents, and very good lots are sold at 11½ cents. The export demand during the week has shown considerable force, and shipments from New York include over twelve thousand boxes of most all grades of full cream at a cost of generally 9½ to 10 cents for small sizes and 9 to 10 cents for large sizes, possibly 10½ cents for a few lots. The through shipments have been large this week, footing up 11,446 boxes. Skims have had some demand from exporters for medium to good grades, and fine skims have sold fairly to home-trade dealers. Stocks of skims are working down and prices held about steady. Exports to Europe from New York foot up 25,320 boxes, including 9229 boxes to Liverpool, 11,415 boxes to London, four hundred boxes to Glasgow, 3277 boxes to Bristol and 999 boxes to Hull.

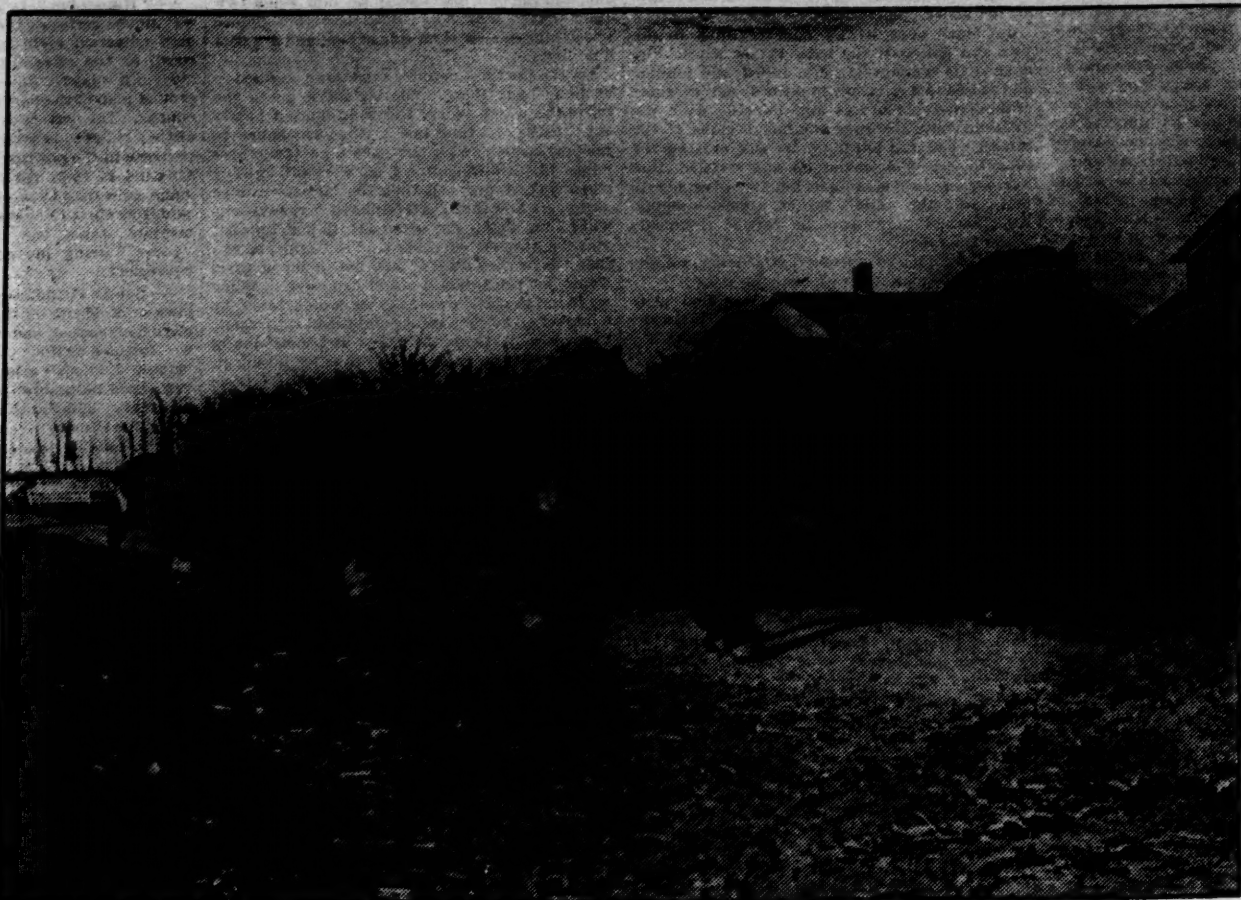
Cable notices to George A. Cochrane, Boston, from the principal markets of Great Britain give butter markets as somewhat steadier, and it is thought the downward tendency has been checked, as receipts are lighter from the Antipodes, and the reduced prices have stimulated consumption. This only on the finest grades of table butter from all parts. Medium grades still drag and values are uncertain. Some American creamery landing has sold from 16 to 17½ cents. Ladies move slowly unless they can be sold at 15 cents. Finest Danish, 20½ to 21½ cents; finest Australian and New Zealand, 19½ to 20½ cents; finest Canadian, 19 to 20 cents; finest Russian, 17 to 19 cents. Cheese markets are barely steady. The increased shipments from the States and Canada have caused an undercurrent of weakness that is likely to reduce values next week. Finest American and Canadian, 10½ to 11 cents.

Stock of butter and eggs in Eastern Cold Storage Company March 26, 1904: Butter, 21,311 packages; last year, 9286 packages; eggs, none; last year, twenty-seven cases.

Stock of butter and eggs in Quincy Market Cold Storage Company March 26, 1904: Butter, 49,761 packages; last year, 35,808 packages; eggs, 2002 cases; last year, 2746 cases.

Butter in storage in Newport and other Eastern points, ninety thousand packages; Chicago, one hundred thousand packages; other Western points, six thousand packages.

The Government figures show great value in the exportation of cotton at this time. For the eight months of the fiscal year ending February, 1904, they were \$308,000,000, against \$243,000,000 in the heavy year of 1903. In 1900 they were only \$104,000,000, or a little over half. The high prices are shown by the comparisons of the amounts exported. For the eight months in question just ended the exports have been 2,600,000,000 pounds, valued as stated, at \$308,000,000; for the corresponding months of 1903 the figures are 3,100,000,000 pounds, valued at only \$171,000,000.



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We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made.

Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle, sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINARY REMEDY

Always Reliable. Sure in Results.

See genuine without the signature of The Lawrence-Williams Co. Sole Agents for the United States and Canada. U.S. & CANADA. CLEVELAND, OHIO.

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